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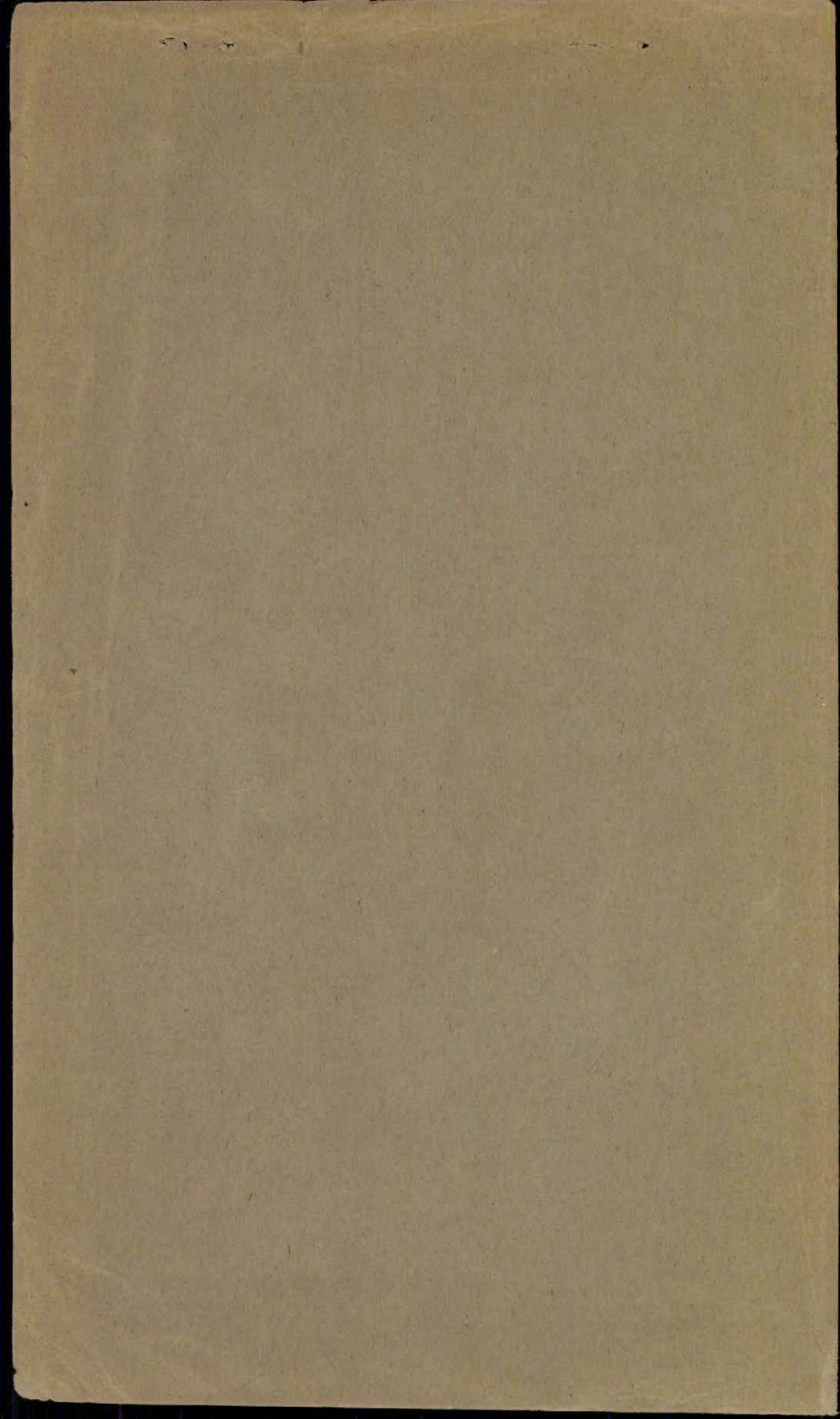
LOUISIANA POLYTECHNIC INSTITUTE



CATALOGUE

1930-31

RUSTON LOUISIANA



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LOUISIANA
POLYTECHNIC
INSTITUTE

GENERAL INFORMATION
AND
ANNOUNCEMENT OF COURSES
1930-31



Vol. XXVIII

APRIL, 1930

Number 2

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1930

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G. Carroll Hilman, Chemistry; B. S., Louisiana State University; M. S., Ph.D., University of Iowa.

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Harley Joseph Nethken, Engineering; B. S., Highland Park College; M. S., Iowa State College.

R. L. Bieseke, Social Science; B. A., M.A., Ph. D., University of Texas.

ASSOCIATE PROFESSORS.

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F. Elizabeth Bethea, Art; B. Design, H. Sophie Newcomb College.

G. M. Bohler, Physical Education, B. E., Albright College.

Leland Legler Brown, Music; B. Music, Baker University.

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Ruth Crawford, Physical Education; B. S., Mississippi State College for Women.

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Thomas A. Green, Education; B. S., Louisiana Polytechnic Institute; M. A., Louisiana State University.

Willis B. Hale, Education; M. A., Northwestern Normal University of Missouri.

Madison F. Hall, English; B. S., M. A., George Peabody College.

James L. Hutcheson, Mathematics; B. A., Dickson College, Dickson, Tennessee.

George Edward Pankey, English; B. A., University of Richmond; M. A., University of North Carolina.

Andy Eugene Phillips, Education; B. S., M. A., George Peabody College.

Louis M. Phillips, Commerce; B. A., Louisiana Polytechnic Institute.

Eugenia H. Smith, English; B. A., University of Texas; M. A., Southern Methodist University.

Vivian Turner, English; B. A., Iowa State Teachers College; M. A., University of Iowa.

ASSISTANT PROFESSORS.

Lucille Campbell, Commerce; B. S., University of Mississippi.
W. R. Cline, Supervising Principal of High School; B. A., Louisiana Polytechnic Institute.

Marion Hayne Folk, Jr., Science; B. S., Clemson College; M. S., Louisiana State University.

Amos W. Ford, Economics; B. A., Baylor University; M. A., University of Chicago.

Lawrence James Fox, Social Science and Physical Education; B. S., University of Georgia; M. A., Louisiana State University.

Frank S. Hale, History and Sociology; B. A., University of Louisville; M. A., University of Virginia.

Elbert Haskins, Music; B. A., University of Michigan.

Kenneth F. Hewins, Journalism; B. A., M. A., Indiana University.

Helen Hunt, Home Economics; B. S., Des Moines University; M. S., Iowa State College.

*Anna Selina Idtse, Home Economics; B. S., University of Minnesota.

Edward Swinton Jenkins, Chemistry; B. S., Clemson College.

Frederick Tracy Morse, Engineering; E. E., M. E., University of Virginia.

Reginald Adams McFarland, Engineering; B. S., M. S., Louisiana State University.

Garnie Wm. McGinty, Social Science; B. A., Louisiana State Normal College; M. A., Peabody College.

Raymond Leslie Reese, Agriculture; B. S., University of Illinois.

Jean M. Roberts, Engineering; E. E., University of Virginia; M. S., Massachusetts Institute of Technology.

Minnie Rozeboom, English; B. A., Hope College; M. A., University of Iowa.

Mildred F. Walker, English; B. A., Cornell College (Mt. Vernon, Iowa); M. A., Columbia University.

*On leave of absence, 1929-30.

INSTRUCTORS.

- Stella Bartlett, Home Economics; B. S., Iowa State College.
Flora May Cunningham, Critique; B. S., George Peabody College.
Winnie D. Smith Evans, Critique; B. A., Louisiana Polytechnic Institute.
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Doris Burd Haskell, Music; New England Conservatory of Music.
Bessie Joyce, Critique; B. S., Louisiana Polytechnic Institute.
Stella Booles Kidd, Music; B. S., Keatchie College.
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Mary Moffett, Art; B. Design; H. Sophie Newcomb College.
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Charlotte Wilson, Art; B. Design, Sophie Newcomb College.
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STUDENT PLACEMENT—Dr. Gustaf Freden, Chairman; Frank Bogard, A. E. Phillips, Miss Helen Graham, L. M. Phillips.

COLLEGE CALENDAR 1930-31

FALL QUARTER

September 15.....	Freshman registration (All first-term freshmen must be present at 9:00 A. M.)
September 16.....	Freshman Day
September 17.....	Registration of old students
November 27.....	Thanksgiving Day, a holiday
December 6.....	Fall Quarter ends

WINTER QUARTER

December 8.....	Winter Quarter begins
December 20—January 2.....	Christmas holidays
March 7.....	Winter Quarter ends

SPRING QUARTER

March 9.....	Spring Quarter begins
May 28.....	Spring Quarter ends

CALENDAR FOR 1930

1931

JANUARY

S	M	T	W	T	F	S
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	—

FEBRUARY

S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	—

MARCH

S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	—	—	—	—	—

APRIL

S	M	T	W	T	F	S
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	—	—	—

MAY

S	M	T	W	T	F	S
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	—	—	—	—	—

JULY

S	M	T	W	T	F	S
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	—	—

AUGUST

S	M	T	W	T	F	S
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	—	—	—	—	—	—

SEPTEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	—	—	—	—	—

OCTOBER

S	M	T	W	T	F	S
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	—

NOVEMBER

S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	—	—	—	—	—	—

DECEMBER

S

PREFATORY STATEMENT

The Louisiana Polytechnic Institute is organized into two schools: The School of Arts and Sciences and the School of Engineering.

The School of Arts and Sciences offers courses leading to the Bachelor of Arts and Bachelor of Science degrees depending upon the major subjects in the junior and senior years of the curricula pursued. Students who major in the Department of Agriculture, Home Economics, Mathematics, or Science, receive the B. S. degree. All students applying for the baccalaureate degree are required to complete satisfactorily the prescribed basic academic curriculum for the freshman and sophomore years before they are permitted to elect courses in the junior year that differentiate one curriculum from the other.

The School of Engineering offers instruction leading to the following baccalaureate degrees: Bachelor of Science in Civil Engineering and Bachelor of Science in Mechanical-Electrical Engineering.

The courses of study leading to these degrees are identical during the freshman and sophomore years. Familiarity with such fundamental subjects as chemistry, drawing, English, mathematics, physics and practical mechanics is essential to the successful study and practice of any branch of the engineering profession. Furthermore, after two years of college work a student is better able to make a definite choice of the branch of engineering which he is best fitted to follow. During the junior and senior years, the courses are planned to give the special training that is best suited to each branch of the profession.

Two-Year Teacher Training, Two-Year Pre-Medical, and Two-Year Pre-Legal Curricula are likewise offered in the School of Arts and Sciences.

Louisiana Polytechnic Institute is a member of the Association of Colleges and Secondary Schools of the Southern States, and the Association of American Colleges. The pre-medical work is recognized by the American Medical Association.

CORRESPONDENCE AND EXTENSION COURSES

Opportunity is offered students to pursue college courses through correspondence or extension work in the college, or in selected centers for groups of students who are unable to attend the college itself.

It is the purpose of the Division of Extension of Louisiana Polytechnic Institute to give to every person who can not do college residence work an opportunity to secure at least a part of the educational advantages offered by this institution. Any person may begin courses for which he is qualified at any time. All college courses, given by correspondence or group-lecture courses by the Division of Extension, may count for regular credit in Louisiana Polytechnic Institute.

FOR WHOM INTENDED

It is generally thought that extension courses are intended only for teachers; this is not the case. Through correspondence, and group-lecture courses the Division of Extension of Louisiana Polytechnic Institute hopes to reach practically every profession and vocation. Extension courses are intended for (1) those already enrolled in Louisiana Polytechnic Institute, but who for various reasons are out temporarily, and wish to add to their acquirements while away from the institution; (2) for those who wish to take some college work preparatory to entering college, with advanced standing, at a later date; (3) for those who are unable to leave their homes, or their business, for residence work, but who wish to secure some of the advantages offered by the institution, either in a general way, or for assistance in their particular profession or vocation.

SPECIAL COURSES FOR TEACHERS

A number of courses have been especially designed to meet the needs of teachers. Teachers can usually find time during the evenings and on Saturdays to pursue correspondence courses, and when possible to organize groups, group-lecture courses, and in this way hasten the time for graduation, as well as to secure practical aid in their profession.

REGULATIONS

Each student, on entering this institution, will be furnished with a copy of the regulations of the faculty, for the observance of which he will be held responsible. NO PLEA OF IGNORANCE OF SUCH REGULATIONS WILL BE RECEIVED AS EXCUSE.

ADMISSION AND ADVANCEMENT

AGE REQUIREMENTS

No applicant under sixteen years of age will be admitted to the college.

ACADEMIC REQUIREMENTS

An applicant for admission to the freshman class must have been graduated with not less than fifteen acceptable units from a four-year course in an accredited secondary school or must attest an equivalent preparation by examination. (A unit of high-school work is a subject pursued through one school year, five periods of at least forty minutes each a week.)

SPECIFIC SUBJECT REQUIREMENTS FOR ADMISSION

	Units
English	3
Algebra	1½
Plane geometry	1
History	2
A foreign language or vocational subjects.....	2
Science	2
Elective	3½

All applicants for admission to the college MUST file in the Registrar's office high-school unit card or other detailed certificate of graduation. A blank form for the certificate will be supplied by the Registrar.

A student entering from another college must present a transcript of the work done there and a certificate of honorable dismissal. In the absence of such credentials the student may be registered conditionally until such credentials can be obtained.

If not obtained within a reasonable time the registration will be cancelled and fees paid by the student returned.

SPECIAL STUDENTS

A person of mature years who is unable to meet the entrance requirements may be permitted to matriculate in courses for which he can demonstrate adequate qualifications, and shall be classified as a special student.

ADMISSION TO ADVANCED STANDING

After one year's residence, a student entering college with advanced standing shall forfeit all advanced credit, should he fail to earn a grade of C in courses evaluating nine college-session hours of the work he is pursuing.

REGISTRATION

Students are required to register on days announced for registration in the college calendar. The total number of college-session hours for which a student may register shall not exceed six.

The privilege of registering shall be withheld from all students who have not registered on the sixth working day beyond the last regular registration day of each quarter.

Students who register after the last regular registration day of any quarter are required to pay a fee of \$2.00 for the first day and \$1.00 for each additional day over which the delay occurs.

ADDING AND DROPPING COURSES

After the first registration for the quarter, a student may add a course only with the approval of the head of the department and upon payment of a fee of \$1.00. No other course may be added after the sixth working day of the quarter.

Under exceptional circumstances, a student may drop a course with the consent of the head of the proper department and of the Registrar. However, no student may be registered for less than four college-session hours. In exceptional cases, with the approval of the Registrar and head of department in which the student is majoring, a last quarter senior may be allowed to carry only the courses required for graduation.

Courses dropped without permission and repeated un-

authorized absences from class entail the withdrawal of the student from the college. For academic derelictions a student may be required to drop a course. A student who fails to make a minimum grade of D in seventy-five per cent of the college-session hours for the quarter shall be dismissed from the institution.

A student who drops a course after the first four weeks of any quarter shall receive the grade of F in that course except when occasioned by his withdrawal from the institution.

AMOUNT OF WORK

The total number of college-session hours that a student may carry any one quarter must not exceed six, except on Engineering, Pre-Medical, or other curricula where more hours are required.

EXAMINATIONS

Examinations include regular and special examinations. Regular examinations are held the last five days of each quarter. Each examination covers a period of not over three hours.

Special examinations include postponed examinations, deficiency examinations, and examinations for advanced standing.

Each student shall pay a fee of one dollar for each special examination, but the total fee paid by each student will not exceed three dollars.

Permission to take any of these examinations must be obtained through the Registrar's office.

All special examinations are held on the third, fourth and fifth working days of each quarter.

A student who has a final examination that has been postponed must take the postponed examination at the time scheduled for special examinations immediately following his registration. A student who fails to take the examination at the prescribed time will forfeit his right to take the examination and will receive a grade of F in the course.

A candidate for graduation who fails to pass the final examination in ONE course in his last quarter's work, may be per-

mitted to take a deficiency examination in this course. In the event that he fails the deficiency examination he must repeat the course.

A student registering may with the approval of the Committee on Classification and Registration be permitted to take examinations in subjects in which he declares himself to be prepared. Such examinations must be taken during the first six weeks of residence.

REQUIREMENTS FOR DEGREES

All requirements of the courses of study as outlined in the college announcement or its equivalent must be certified by the Registrar before degrees shall be conferred.

Fifteen of the last eighteen college-session hours presented for the baccalaureate degree or two-year teacher-training course must have been earned in residence.

No student will be recommended for graduation who has a failure in a required course.

No student will be recommended for graduation who has a failure in any subject taken during his junior and senior years.

ATTENDANCE AT COMMENCEMENT

All candidates for degrees are required to be present at Commencement exercises. Students who do not attend Commencement exercises will not be granted their diplomas until the expiration of one year, unless excused from attendance by the President of the College.

No honorary degrees are conferred.

CAP AND GOWN

The Oxford cap and gown is the official dress for commencement, and candidates for degrees are required to appear in this dress.

TWO-YEAR TEACHER-TRAINING COURSE

No student will be recommended for the Two-Year Certificate who has not completed nine month's residence.

CLASSIFICATION

FRESHMAN. A student with fewer than fifteen hours of college work at the beginning of any college year shall be classed as a freshman.

SOPHOMORE. A student who has fewer than thirty and not fewer than fifteen hours of college work to his credit at the beginning of any college year shall be classed as a sophomore.

JUNIOR. A student who has to his credit at the beginning of any college year fewer than forty-eight and not fewer than thirty hours of work shall be classed as a junior, unless he is allowed to register according to the following paragraph.

SENIOR. A student with forty-eight or more hours of work (or one who is allowed to register for sufficient hours to graduate during that year) to his credit at the beginning of any college year shall be classed as a senior.

SYSTEM OF GRADING

The grade marks are divided into two groups as follows: Passing grades are A, B, C, and D, in order from highest to lowest.

A: The grade of A is given for the highest degree of excellence that it is reasonable to expect of persons of exceptional ability.

B: The grade of B is given for a superior quality of work, but not of as high a quality as should be expected of persons of exceptional ability.

C: The grade of C is given for a quality of work that is above the requirement for a grade of D and will represent the average work to be expected from classes in general.

D: The grade of D is given for a quality of work that is represented as the minimum requirement to receive credit for the course.

Non-passing grades are defined as follows:

E: The grade of E is given when seventy-five per cent. of the work required in the course has been completed. The remain-

ing twenty-five per cent. must be completed during the first four weeks of the following quarter. If the student fails to complete the work in the time specified, he will be given a grade of F.

F: The grade of F is given to denote failure and to require that the work must be repeated before credit shall be given.

QUALITY POINTS

With this system of grading, the quality point plan is employed; points are earned as follows:

For each term grade of A, three quality points are earned; for a term grade of B, two quality points; and for a term grade of C, one quality point.

A term grade of D does not carry any quality point.

In the four-year college courses the student to be graduated must have earned a quality point for each college-hour earned.

The above statement applies with equal force to the two-year college courses.

The quality point plan will not be applied in its entirety to students coming from other colleges, so far as the college hours earned in the other colleges are concerned. The head of the department entered shall determine the number of college hours that may be accepted and the conditions under which they will be accepted.

RATING OF STUDENTS

The rating of any student or any group of students will be determined by dividing the number of quality points earned by the number of hours of academic work for which the student or group was registered.

HONORS

By a system of class, departmental, and general honors, the college gives official recognition of attainments in scholarship.

CLASS HONORS

At the close of each year the names of all students who have been promoted to the next higher class and have received average

grades for the year not lower than those indicated in the accompanying table are published in three alphabetical lists as receiving honorable mention for the work of the year. The minimum average grades are as follows on the present basis of rating:

To qualify for Freshman honors.....	2.00
To qualify for Sophomore honors.....	2.25
To qualify for Junior honors.....	2.50

DEPARTMENTAL HONORS

At the end of the senior year special honors in the separate departments of the college are awarded to students who during the junior and senior years have attained in the courses (amounting to at least twelve hours) of one of these departments an excellence of B in six hours of work, and A in six other hours; and have maintained in all of their courses of these two years an average rating of at least 1.7 and in no course a grade lower than C.

GENERAL HONORS

At graduation the degree is conferred cum laude upon students who have maintained an average rating of 2.2; magna cum laude upon those who have maintained an average rating of 2.6; and summa cum laude upon those who have maintained an average rating of 2.9 during their four years of work.

To be eligible for any honor, a student must not be registered for less than five hours of work during any quarter.

EXPENSES

REGISTRATION

The registration fee of \$7.50, payable by all students each quarter upon entrance, includes the incidental fee, the library fee, subscription to the weekly student newspaper, and the entertainment and athletic ticket. Each student who registers for the fall or winter quarter is required to pay a fee of \$2.00 entitling him to a copy of the college annual, the Lagniappe, issued during the spring quarter.

None of the above fees are refunded after the registration is complete.

An additional fee of \$2.00 will be required for completion of registration on the day following the close of the registration period at the beginning of each quarter, and one dollar will be added for each additional day of delay. No student may register after the sixth working day of the quarter.

Registration is not complete until after compliance with the following requirements:

1. Approval of schedule by the head of the department.
2. Signature of the dean of men or the dean of women on schedule.
3. Payment to the treasurer of all fees and charges which are payable in advance. Dormitory students are required to pay at least four weeks' board in advance, and music students at least four weeks' tuition.
4. Acceptance by registrar of registration material.

LABORATORY FEES

Laboratory fees vary according to the course pursued, and range from \$1.00 to \$3.00 a quarter for each course in which such a fee is required. For the laboratory courses in chemistry a breakage fee of \$5.00 is deposited. The unused portion of this is refunded upon completion of the course.

LIVING EXPENSES

The cost of living in the dormitories is \$75.00 for board, laundry and room for each twelve-weeks' quarter, and an infirmary fee of \$1.50 per quarter. Each student upon entering the dormitory for the first time will deposit a trust fee of \$3.00, against which will be charged any undue damage to the room or furniture. Of this fee, \$2.50 will be refunded upon the student's graduation or permanent withdrawal. A deposit of 50c. for a room key is to be made with the matron.

Board will be payable in advance, either for the entire quarter or every four weeks. Students are expected to accept the responsibility of looking after these payments promptly.

When a student resigns, a refund of the full balance paid in advance will be made.

Short absences do not lessen the cost of operating the boarding department, and no deduction will be made for an absence of a week or less. For longer absences deduction will be made for the number of days in excess of seven.

Students who have guests in the dining hall should pay the treasurer promptly at the rate of fifty cents a meal.

Excess laundry charges will be made according to conditions on the printed laundry slip.

Dormitory students are advised not to leave money in their rooms. Deposits may be made at the treasurer's office.

The treasurer will not approve the resignation of any student who is indebted to the college, nor will credit be given for academic work until all indebtedness has been settled.

MUSIC TUITION

The tuition for individual instruction in music (piano, voice or violin) is \$25.00 for a twelve-weeks' quarter, payable in advance, either by the quarter or every four weeks. A charge of \$3.00 a quarter is made for the use of a piano for practice purposes.

SUMMARY OF EXPENSES

Registration fee, each quarter, (Payable by all students).....	\$ 7.50
College Annual fee, (payable once each school year).....	2.00
Board in the dormitories, per quarter.....	75.00
Infirmary fee, in dormitory.....	1.50
Trust fee, deposited upon first entrance to dormitory	3.00
Dormitory key deposit.....	.50
Music tuition, per quarter.....	25.00
Piano practice fee, per quarter.....	3.00
Laboratory fees	\$1.00 to 3.00
Chemistry breakage deposit	5.00
Diploma fee	5.00

DISCIPLINE AND CONDUCT

SCHOLASTIC PROBATION

I. SCHOLASTIC PROBATION is a measure of time during which the student is demanded directly to prove his ability to profit by collegiate instruction.

- A. The following system of probation is directed by the dean of men and the dean of women, under the ultimate supervision of the president.
- B. A student who fails in three-fourths of his work for the quarter is subject to dismissal from the institution. See exceptions in H.
- C. A student reported as having failed in as many as two and two-thirds college session hours in a quarter is placed on scholastic probation.
- D. Three unauthorized absences from the same class during one quarter will automatically add two quality points to those normally required for graduation.
- E. A student on probation, either scholastic or disciplinary, who absents himself from any class exercise, or who neglects any class work, except because of illness or exceptional circumstances, thereby drops his name from the rolls of the institution for the remainder of the quarter. Students while on probation are subject to special rules as to hours of study, and uses of leisure time, etc., as the dean of men and the dean of women may deem necessary or useful as a stimulus to scholastic effort. Such students may not take part in extra-curricular activities other than athletic contests which are governed by S. I. A. A. regulations.
- F. To be released from scholastic probation a student must earn in the preceding quarter an average grade of "C" in all subjects and must not have failed in more than one and two-thirds college session hours. A student who fails to remove probation in two consecutive quarters is subject to dismissal from the college.
- G. A student dismissed from this institution under section B or F may one quarter (summer session not included) after dismissal, return without being placed on probation but if

his record is such that he again goes on probation (or fails two and two-thirds hours of work) he will immediately be dismissed for one calendar year. A student suspended under section E may be re-admitted upon approval of the president.

- H. Cases of first quarter freshmen arising under section B shall be handled as if arising under C, i. e., the student will be placed on probation instead of being dismissed.
- I. That the status of the student who resigns or leaves the institution before the end of a quarter and re-enters within one calendar year, shall be determined by his record at the time of his leaving the institution. This partial record shall be regarded as if it were the complete record for the quarter and shall be used as a basis for determining whether or not he should be placed on probation.

II. DISCIPLINARY PROBATION is a measure of discipline and is used by the deans in cases of students who disregard regulations or cut classes as many as four times. It will be used for a definite period, and carries with it the following conditions, during the period of such probation:

- A. Any further violation of college regulations during the time of probation will cause such students to be suspended for a period to be determined by the faculty committee of discipline.
- B. Initiation into any social or honorary organization is prohibited.
- C. All absence privileges are cancelled.
- D. Such a student may not run for office.
- E. No student on probation may represent the school in any intercollegiate event other than in athletic contests which are governed by S. I. A. A. regulations.
- F. A student who has more than three unauthorized absences from the same class during one quarter will be immediately placed on disciplinary probation for one term.

"CAMPUSED"

"Campused" is a measure used for the sake of discipline,

by the deans. A student who has disregarded regulations may be confined to the campus for a period of time designated by his or her dean; and may not be permitted to attend extra-curricular functions on the campus, such as ball games or programs given in the auditorium.

If the nature of the offense or infraction of rules seems to demand heavier punishment, a student may be placed on "strict campus," which means that there will be no social contact other than that necessary for carrying on class work.

If a student has to be corrected during a period of "campus" the period will be extended.

CHEATING

Receiving help is accepting information, oral or written, which will be of benefit at a time when work is expected to be done alone and without help or co-operation, or using as your own, material taken from books, whether in daily work, term papers, or examinations.

Giving assistance is the communication of oral or written information which will benefit another at a time when he is expected to have done his work in tests, examinations, term papers, theme work, notebook work, or permitting another to take advantage of your work when he is expected to work alone and without co-operation.

Honest work is, then, work which is the result of the student's own effort and information, his reaction to, and assimilation of the material for study.

The student is expected to do honest work, that is, to hand in work which is his own and to be in no way a party to the dishonesty of another. The student is expected actively to avoid and discourage another student's securing help from his paper, whether quiz, theme, examination, or notebook. The student is further expected not to secure, or attempt to secure, illicit information concerning test or examinations.

It is assumed that the instructor will accept as honest or refuse as dishonest work which is handed to him. And it is

further assumed that the instructor will arrange such physical conditions as will be conducive to honesty.

Any student who is guilty of cheating will be summarily dismissed.

HAZING

The unauthorized entrance into the room of other students, or subjecting fellow students to indignities of any character is a violation of discipline. Mingling with a crowd or following a crowd engaged in hazing will be considered to be participation in hazing. Mingling with a crowd, following a crowd, or attempting to gain forcible entrance to any room or building shall also be considered as a violation of discipline.

On entering college, each student is required to subscribe to the following statement:

"I PLEDGE MY HONOR TO REFRAIN FROM ANY AND ALL FORMS OF HAZING AND TO RESPECT AND OBEY ALL RULES AND REGULATIONS OF THE FACULTY."

SITTING IN CARS

Women students will not be allowed to sit in parked automobiles.

SOCIAL REGULATIONS

No social function shall be scheduled by any body of students without the permission of the Dean, with whom the arrangements shall be made.

RESIDENCE IN TOWN

Women students who expect to board in town will be required to see the Dean before they are allowed to register.

Any change of address must be reported at once to the Registrar and to the Deans.

CLASS ATTENDANCE

Regular attendance on all class exercises is required for the sake of discipline, apart from its effect on the student's grade. A student reporting to class late will be permitted to enter class

at the discretion of the instructor. If permitted to enter, he will be charged with being late.

A student who reports to class late three times in one quarter of twelve weeks and who does not present a satisfactory excuse will be charged with one absence.

ABSENCES

AUTHORIZED absences are those permitted by the college regulations, such as absence of members of athletic teams, or of debating teams, or of musical organizations while representing the institution, and those caused by illness or by other exceptional circumstances.

UNAUTHORIZED absences are those absences from class which are not caused by illness or exceptional circumstances.

Three unauthorized absences from the same class during one quarter will automatically add two quality points to those normally required for graduation.

A student who has more than three unauthorized absences from the same class during one quarter will be immediately placed on probation.

A student who is absent ten times from any course during one quarter will automatically receive F in such course.

In all cases, regardless of whether the absence is authorized or unauthorized, the student will be held definitely responsible for the work which he has missed.

A student, absent without excuse from a scheduled hour of work on a day immediately preceding or following a holiday, will be charged with two absences for each class hour absent.

EXCUSES

A student will not be given a slip for an unauthorized absence. A student who has an authorized absence from class must procure a slip from the Dean and present it to the instructor within one week from the time he reports back to class. If he fails to procure and present the slip, the absence will be recorded as unauthorized.

HONORABLE DISMISSAL

The term "Honorable Dismissal" is used to refer to conduct and character only. An Honorable Dismissal is never to be given unless the student's standing as to moral conduct and character is such as to entitle him to continuance in the college. Furthermore, in every transcript of the student's record, full mention shall be given as to the cause of withdrawal.

CAMPUS PRIVILEGE

A student who has resigned or who has been suspended or expelled must leave the campus within twenty-four hours after severing his relation with the institution.

USE OF THE LIBRARY

LIBRARY HOURS

The library is opened at 7:30 a. m. and remains open continuously until 8:00 p. m. except on Saturday when it closes at 6:00 p. m.

GENERAL READING ROOM

In this room are placed the more generally used reference books and the current periodicals. They are to be used at the pleasure of the students, but are not to be taken out nor defaced in any way. Those in charge of the library wish to make all students comfortable, and will be glad to serve them in any way.

BORROWING BOOKS

Books and periodicals in the general collection are loaned for one week, with the privilege of renewal. Books which are reserved for certain courses may be taken from the library at 7:00 p. m. and returned not later than 8:15 a. m. the following day. Books belonging to the Woodrow Wilson Collection are not to be taken from the library.

FINES

A fine of fifteen cents for the first hour, and five cents for each succeeding hour, will be charged for reserved books which are overdue. A fine of five cents will be charged for each day a book from the general collection is held over time. Fines will also be charged for any injury to books or periodicals. Failure on the part of a student to pay his fine will result in having library privileges withdrawn from him.

Those students who take books and periodicals from the library without permission and contrary to all regulations are not only liable to have their library privileges taken from them, but are subject to dismissal from the institution.

MISCELLANEOUS

STUDENT EMPLOYMENT

Opportunity is given to a limited number of students to earn board and lodging, but all students are required to pay the registration, library, laboratory, and infirmary fees. Beginning with the winter quarter of 1928 only students who are doing satisfactory work will be given employment by Louisiana Polytechnic Institute.

SCHOLARSHIP, LOANS, ETC..

A scholarship, exempting the student from the payment of registration and laboratory fees, is granted annually to the honor graduate of each state-approved high school of Louisiana.

The McFarland Post No. 2 of the American Legion maintains a loan fund for men students of Lincoln Parish.

The George O. Thatcher Memorial Loan Fund was established in 1925 by a gift of two hundred dollars from Mrs. W. F. Pearce. The fund is maintained by the Alumni Association and all Life Membership Fees become a part of the loan fund. The sum of fifteen hundred dollars of this fund has been used as loans to students recommended by the President of the College and the Thatcher Memorial Loan Fund Committee.

The Pierian Club of Ruston, maintains a loan fund for women students who are recommended by the President of the College and the Education Committee of the Club. This loan fund was established in 1910 and has been maintained without interruption since that time.

FACULTY ADVISORS

Advice of the Dean of Men, Dean of Women and the heads of the college departments is available for students in the selection of courses, in securing assistance in study methods, in preparation for vocations, in overcoming difficulties of adjusting them-

selves to the conditions and requirements of college life, and in encouragement towards making the most of the opportunities offered by the college.

ATHLETICS AND PHYSICAL TRAINING

All phases of athletics for men are encouraged; football, baseball, basketball, track, tennis, volleyball, hockey, soccer, fieldball, boxing, and wrestling. The college has adequate facilities for the conduct of these forms of physical training, a newly constructed football field, baseball diamond, practice fields, a quarter-mile track with two-hundred-twenty yard straightaway, and tennis courts; as well as separate pavilions for men and women in which are conducted physical training exercises, basketball, and indoor games.

Inter-collegiate contests in the major athletic sports are participated in by men of the college. The college is a member of the Southern Inter-collegiate Athletic Association. Over emphasis, however, is not placed upon representation upon the college teams, but students are urged to engage in some form of physical training and are required to pursue courses in physical training in the freshman and sophomore years.

Inter-collegiate contests in athletic sports for women are discouraged. All women students are urged to take part in some form of athletics, and are required to take part in prescribed courses during their freshman and sophomore years. Besides regular setting up exercises and drills, training is given for all women in major sports, basketball, hockey, soccer, volleyball, tennis, baseball, track, and field events.

Medical examinations at the beginning of the year determine the type of exercise each woman student takes. Those not able to take part in the major sports are required to work in minor activities, as quoits, croquet, and hiking.

The Women's Athletic Association, which is a member of the National organization, the Athletic Conference of American College Women, sponsors all athletic inter-class games. Points are given for the various events, and these points count toward winning letters, awards, etc. Points are given for hiking and observing of hygiene month.

Physical education is required of all freshmen and sophomore women; and no student may graduate without completing this required work.

ELIGIBILITY OF ATHLETES

All candidates for athletic teams must strictly adhere to the rules and regulations of the Southern Intercollegiate Athletic Association.

CONCESSIONS

The general regulations of the college apply to athletes as well as to other students, and no concessions of any nature will be made because of representation on the college teams.

ORGANIZATIONS AND PUBLICATIONS

The following college organizations, under the direction of members of the faculty, offer students opportunities for social and intellectual development:

The Pan-Hellenic Council, Student Council, La Causerie des Etudiants, La Tertulia, Classic Club, Forensic Club, Thatcher Mathematical Society, International Relations Club, Tech Band of Glee, Tech Band, Tech Orchestra, Charminade Music Club, Y. M. C. A., Y. W. C. A., Women's House Association, Home-Economics Club, Women's Athletic Association, Men's Athletic Association.

Honor fraternities with chapters on the campus are these: Delta Alpha Rho, engineering; Kappa Gamma Psi, music; Sigma Delta Psi, athletics, and Pi Gamma Mu, social science.

Social fraternities and sororities are the following: Theta Kappa Nu Fraternity; Alpha Lambda Tau Fraternity; Lambda Theta Sorority; Delta Phi Gamma Sorority.

The college publications are TECH TALK, a weekly paper, and LAGNIAPPE, the college annual.

ALUMNI ASSOCIATION

The Alumni Association of the Louisiana Polytechnic Institute is chartered under the non-stock corporation laws of Louisiana. It is a live organization of ex-students whose purpose is to promote the interests and the welfare of their Alma Mater. Its

activities are directed by an Executive Council composed of the officers, elected annually, and a Board of four directors, one of whom is elected each year to serve four years. The business meeting of the Association is held each year during commencement week, at which time a reunion picnic on the campus is enjoyed. From time to time a banquet is also held, and some prominent speaker is presented at a public program as part of the regular Commencement Exercises.

HABITUAL BAD ENGLISH

All freshmen must write preliminary tests in English before they will be allowed to register as students in the college. Those who do not give sufficient evidence of their ability to express ideas clearly and coherently will be assigned to non-credit classes in English, to make up high school deficiencies. Students who are assigned to non-credit classes must make a passing credit by regular work in those classes; and they will not be permitted to enter English 1 until they have made such credit.

SUMMER SCHOOL

Louisiana Polytechnic Institute maintains a summer school in which nearly all the courses of the regular year are offered by the regular members of the faculty. For the convenience of students the summer session is divided into two parts of six weeks each. Students carry fewer classes in summer; but by meeting daily for regular recitation and lecture classes and by giving double time to laboratory periods, they may earn three hours of credit in either six-weeks period. During the twelve weeks students may earn six hours, the maximum amount that they may carry any one quarter of the regular year. A summer school bulletin is published each spring and may be secured by writing the Registrar's office.

RELIGIOUS ORGANIZATIONS

CHURCHES

To establish promptly and to maintain regularly vital religious contacts is a matter of first importance to every student. These churches of Ruston, through their pastors, offer regular programs adapted to the needs of college students:

METHODIST CHURCH: Rev. H. M. Johnson, Pastor.

FIRST BAPTIST CHURCH: Rev. W. J. Bolin, Pastor.

TEMPLE BAPTIST CHURCH: Rev. W. D. Wilbanks, Pastor.

PRESBYTERIAN CHURCH: Rev. S. E. McFadden, Pastor.

EPISCOPAL CHURCH: Rev. Lennie-Smith, Pastor.

CHURCH OF GOD: Rev. Olan Parr, Pastor.

CHRISTIAN ASSOCIATIONS

The Young Men's and the Young Women's Christian Associations have organizations on the campus. These organizations engage in a wide range of serviceable activity which enables students of varied interests and talents to participate. These activities are planned to give students an opportunity to express their altruistic impulses and Christian ideals.

LIBRARY

The Louisiana Polytechnic Institute Library was opened to students, faculty, and the general public in December, 1927. The new building is the Georgia-Colonial type of architecture, is commodious and adequately equipped. It has a capacity of forty-nine thousand volumes and it can accommodate two hundred fifty readers.

At the present time the library contains about 10,160 volumes, besides manuscripts, pamphlets, and unbound newspapers and magazines. The library is a government depository, and as such, it receives official documents of many kinds, including publications of the Smithsonian Institute. New books for reference work are being added constantly.

A selected library, installed in a special room of the new building is known as the "Woodrow Wilson Memorial Library." This collection of books originated in gifts from Mr. J. H. Meek, Camden, Arkansas; Mr. T. L. James, Ruston, Louisiana; the Ruston State Bank; and from other friends, including students and alumni. This room contains about four hundred books dealing with various phases of the social sciences.

It is the purpose of the library to supply all books needed for reference work by students; to offer a certain amount of recreational reading; and to furnish the best magazines and current periodicals for the use of faculty and students.

COURSES OF STUDY

EXPLANATION

Courses numbered from 1 to 99 are open to freshmen. Courses numbered from 100 to 199 assume at least sophomore standing for admittance; courses from 200 to 299, at least junior standing; courses from 300 to 399, senior standing. But occasionally the distinction between junior and senior courses is waived and courses in outlined curricula are generally to be taken in the year to which they are assigned by the curricula, regardless of the numbering of the courses.

A "continuation" course is actually two or three courses that form a sequence through successive quarters. Courses listed in this fashion (e. g., Latin 10, 11, and 12) grant only provisional credit until the sequence of the "continuation" course is completed.

A course usually meets three times a week for a quarter of twelve weeks, and assumes a preparation of two hours of work for each hour of meeting. A course carries a credit of one college-session hour. Certain courses in the sciences and in other subjects require more or less work than the amount cited, and accordingly carry more or less credit. The credit for each course is indicated with the description of the course, as follows: Two-thirds of an hour credit; one and two-thirds hours credit; one hour credit. The word "hour", so used, means one college-session hour.

CURRICULA

SCHOOL OF ARTS AND SCIENCES

ACADEMIC CURRICULUM

In the School of Arts and Sciences the baccalaureate degree is granted on the completion of a four-year course, which conforms to regulations of the State Board and to requirements of the particular department in which the student is majoring. Students may major in Art, Commerce, English, Foreign Language, Home Economics, Mathematics, Music, Science, or Social Science; and they may choose a minor with the approval of the head of the major department.

Graduates on the Academic Curriculum may receive a professional certificate, valid for life, if they have elected nine college-session hours in Education, including methods and practice teaching in the major subject.

The curriculum of the first two years is practically the same for all students on the Academic Curriculum, regardless of the major. Students who are majoring in Art or in Music, however, may substitute three college-session hours in the special subject for Mathematics 1, 2, 3.

ACADEMIC CURRICULUM

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3	
History 1, 2, 3: Modern European History.....	3	
Foreign Language	3	
Mathematics 1, 2, 3: College Algebra, Solid Geometry, Plane Trigonometry.....	3	
Biology, or Chemistry.....	5	
Total college-session hours.....		17

SOPHOMORE YEAR

English 100, 101: Survey of English Literature.....	2	
English 102: Survey of American Literature.....	1	
History 100, 101, 102: Survey of United States History.....	3	
Foreign Language.....	3	
Physics, or Chemistry, or Biology.....	5	
Elective.....	3	
Total college-session hours.....		17

JUNIOR AND SENIOR YEARS

Major subject	9	
Minor subject	6	
Elective	15	
Total.....		30
Total number hours required on Academic curriculum.....		64

COMMERCIAL COURSE CURRICULUM LEADING TO BACCALAUREATE DEGREE

FRESHMAN YEAR

English 1, 2, 3:	3
Commerce 1, 2, 3:	3
Chemistry 1, 2, 3:	5
Mathematics 1, 2, 3:	3

Foreign Language	3
Total college-session hours.....	17

SOPHOMORE YEAR

Commerce 105:	1
Commerce 100, 101, 102:	3
English 100, 101:	2
History 1, 2, 3:	3
Physics or Biology.....	5
Foreign Language	3
Total college-session hours.....	17

JUNIOR YEAR

Commerce 150, 151, 152:	3
Commerce 225, 226:	2
Sociology 100, 101, 102:	3
Economics 100, 101, 102:	3
History 100, 101, 102:	3
Psychology 100, 101, 102:	3
Total college-session hours.....	17

SENIOR YEAR

Commerce 202:	1
Economics 110:	1
Economics 129:	1
Economics 212:	1
Mathematics 205, 206, 207:	3
Commerce 200, 201:	2
Physiology and Hygiene 200, 201:	2
Political Science 250, 251, 252:	3
Elective	3
Total college-session hours.....	17
TOTAL college-session hours in curriculum.....	68

SCIENCE—AGRICULTURE COURSE

CURRICULUM LEADING TO BACCALAUREATE DEGREE

FRESHMAN YEAR

Agriculture 1, 2, 3: Stock Judging and Breed Types.....	5
Agriculture 50: Feeding of Farm Animals.....	1
English 1, 2, 3: Freshman Composition.....	3
Chemistry 1, 2, 3: General Chemistry.....	5
Agriculture 51: Breeding of Live Stock.....	1
Agriculture 52: Milk Production.....	1
Total college-session hours.....	16

SOPHOMORE YEAR

Agriculture 101: Elementary Dairying.....	1
Agriculture 102: Poultry Production.....	1
Agriculture 103: Swine Production.....	1
Agriculture 150: Diseases of Farm Animals.....	1
Agriculture 151: Vegetable Gardening.....	1
Agriculture 152: Farm Work Stock.....	1
Agriculture 153: Beef Cattle and Sheep Production.....	1
English 100, 101, 102: English Literature, American Literature	3
Mathematics 107, 108, 109: Agricultural Mathematics.....	3
History 1, 2, 3: General History.....	3
Total college-session hours.....	16

JUNIOR YEAR

Agriculture 201: Forage and Pasture Crops.....	1
Agriculture 202: Southern Field Crops.....	1
Agriculture 203: Fruit Growing.....	1
Agriculture 250: Injurious Insects.....	1
Agriculture 251: Farm Marketing.....	1
Agriculture 252: Soil Physics.....	1 2-3
Agriculture 253: Diseases of Plants.....	1
Physics 101, 102, 103: General College Physics.....	5
Economics 1, 2, 3: General Economics.....	3
Chemistry 202: Quantitative Analysis	1 2-3
Total college-session hours.....	17 1-3

SENIOR YEAR

Agriculture 301: Soil Fertilizers.....	1 2-3
Agriculture 302: Farm Management.....	1
Agriculture 350: Farm Butchering and Curing of Meats.....	1
Agriculture 351: Farm Accounting.....	1
Agriculture 352: Farm Machinery.....	1
Agriculture 353: Farm Drainage and Terracing.....	1
Agriculture 354: Advanced Dairying.....	1
Agriculture 355: Farm Buttermaking, Creamery Practice.....	1 2-3
Biology 1, 2, 3: General Biology.....	5
History 100, 101, 102: United States History.....	3
Sociology 210: Rural Sociology.....	1
Total college-session hours.....	18 1-3
TOTAL college-session hours in curriculum.....	67 2-3

TWO-YEAR PRE-MEDICAL CURRICULUM

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3
Foreign Language	3

Mathematics 1, 2, 3:	3
Biology 1, 2, 3: General Biology.....	5
Chemistry 1, 2, 3: General Chemistry.....	5
Total college-session hours.....	19

SOPHOMORE YEAR

English 100, 101: English Literature.....	2
History 1, 2, 3: Modern European History.....	3
Foreign Language	3
Chemistry 100, 101, 102: Organic Chemistry.....	6
Physics 100, 101, 102:	5
Total college-session hours.....	19
TOTAL college-session hours in curriculum	38

TWO-YEAR PRE-LEGAL CURRICULUM

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3
History 1, 2, 3: Modern European History.....	3
Political Science 100, 101, 102:	3
Foreign Language	3
Mathematics 1, 2, 3:	3
Elective	3
Total college-session hours.....	18

SOPHOMORE YEAR

English 100, 101, 102: English Literature.....	3
History 100, 101, 102: U. S. History.....	3
Economics 100, 101, 102:	3
Social Science, elective in.....	3
Foreign Language	3
Elective	3
Total college-session hours.....	18
TOTAL college-session hours in curriculum.....	36

MUSIC COURSE

CURRICULUM LEADING TO BACCALAUREATE DEGREE

FRESHMAN YEAR

English 1, 2, 3: (Composition).....	3
Science 1, 2, 3: (Biology, Chemistry, Physics).....	5
Music 10, 11, 12: (Solfeggio).....	3
Foreign Language 1, 2, 3:.....	3
Music 50, 51, 52: (Piano, Voice or Violin).....	3
	17

SOPHOMORE YEAR

History 100, 101, 102 or 1, 2, 3.....	3
English 100, 101, 102.....	3

Foreign Language 10, 11, 12.....	3	
Music 100, 101, 102 (Solfeggio).....	3	
Music 110, 111, 112 (Harmony).....	3	
Music 150, 151, 152 (Piano, Voice or Violin).....	3	18

JUNIOR YEAR

Music 250, 251, 252 (Piano, Voice or Violin).....	3	
Music 211, 212, 213 (Counterpoint).....	3	
Music 120, 121, 122 (History of Music).....	3	
Public School Methods 260, 261.....	2	
Education 107 (Practice Teaching of Public School Music).....	1	
Minor Instrument	1	
Foreign Language	3	16

SENIOR YEAR

Music 350, 351, 352 (Piano, Voice or Violin).....	3	
Music 0, 310, 311 (Instrumentation)	2	
Foreign Language	3	
Psychology 100, 101, 102.....	3	
Music 330 (Music Appreciation).....	1	
Minor Instrument	3	15

EDUCATION CURRICULA

LEADING TO THE BACCALAUREATE DEGREE
ENGLISH—FOREIGN LANGUAGE

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3	
History 1, 2, 3: Modern European History.....	3	
Foreign Language	3	
Mathematics 1, 2, 3: Algebra, Geometry, Trigonometry.....	3	
Biology, or Chemistry.....	5	
Library Technic 1, 2.....	2-3	
Total college-session hours.....		17 2-3

SOPHOMORE YEAR

English 100, 101, 102: English and American Literature.....	3	
History 100, 101, 102: U. S. History.....	3	
Physics or Chemistry or Biology.....	5	
Foreign Language	3	
Psychology 100, 101, 102:	3	
Total college-session hours.....		17

JUNIOR YEAR

English 110: Fundamentals of Speech.....	1	
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English 206: Advanced Composition	
or English 233: Journalism.....	1
English 208: Short Story, or English 209.....	1
English 222: History of the English Language.....	1
Foreign Language	3
Sociology 100, 101, 102: Principles of Sociology.....	3
Education 204, 205, 206: Secondary Education.....	3
Education 250: Materials and Methods, English.....	1
Education 108: Observation and Practice Teaching.....	2
Total college-session hours.....	16

SENIOR YEAR

English 210: The Novel.....	1
English 214: Romantic Poetry, or English 215, Victorian Poetry	1
English 218: Shakespeare.....	1
English 225: Contemporary Literature or English 113 or any other Junior-Senior English course.....	1
Foreign Language	3
Hygiene and Sanitation 200, 201:	2
Education 109: Observation and Practice Teaching.....	2
Education 311: Tests and Measurements.....	1
Education 251: Materials and Methods, Foreign Language.....	1
Elective.....	3
Total college-session hours.....	16
TOTAL college-session hours in the curriculum.....	66 2-3

ENGLISH—SOCIAL SCIENCE

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3
History 1, 2, 3: Modern European History.....	3
History 100, 101, 102: U. S. History.....	3
Mathematics 1, 2, 3: Algebra, Geometry, Trigonometry.....	3
Biology, or Chemistry.....	5
Library Technic 1, 2.....	2-3
Total college-session hours.....	17 2-3

SOPHOMORE YEAR

English 100, 101, 102: English and American Literature.....	3
Economics 100, 101, 102: Principles of Economics.....	3
Political Science 100, 101, 102:	3
Physics, Chemistry, or Biology.....	5
Psychology 100, 101, 102:	3
Total college-session hours.....	17

JUNIOR YEAR

English 110: Fundamentals of Speech.....	1
English 206: Advanced Composition or English 233: Journalism.....	1
English 208: Short Story, or English 209.....	1
English 222: History of the English Language.....	1
History 110, 111, 112: Ancient and Medieval History.....	3
Sociology 100, 101, 102: Principles of Sociology.....	3
Education 108: Observation and Practice Teaching.....	2
Education 204, 205, 206: Secondary Education.....	3
Education 250: Materials and Methods, English.....	1
Total college-session hours.....	16

SENIOR YEAR

English 210: The Novel.....	1
English 214: Romantic Poetry, or English 215, Victorian Poetry	1
English 218: Shakespeare.....	1
English 225: Contemporary Literature or English 113 or any other Junior-Senior English course.....	1
Hygiene and Sanitation 200, 201.....	2
Education 109: Observation and Practice Teaching.....	2
Education 311: Tests and Measurements.....	1
Education 350: Materials and Methods, History.....	1
Six quarters of Social Science, including History 207, 208, 260.....	6
Total college-session hours.....	16
TOTAL college-session hours in the curriculum.....	66 2-3

HOME ECONOMICS

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3
Biology 1, 2, 3.....	5
Mathematics 1, 2, 3: Algebra, Geometry, Trigonometry.....	3
Art 75, 76: Home Economics Art.....	1 1-3
Music 1, 2: Singing and Dictation.....	1 1-3
Home Economics 1: Textiles.....	1
Home Economics 2: Clothing.....	1
Home Economics 15: Food Study.....	1
Home Economics 25: Pattern Study.....	2-3
Library Technic 2, 2.....	2-3
Total college-session hours	18

SOPHOMORE YEAR

English 100, 101, 102: English and American Literature.....	3
Chemistry 1, 2, 3.....	5

Physics 120: Household Physics.....	12-3
Psychology 100, 101, 102.....	3
Art 175: Advanced Home Economics Art.....	2-3
Home Economics 100: Costume Design.....	2-3
Home Economics 105: Food Preparation.....	1
Home Economics 108: Textiles.....	2-3
Home Economics 110: Advanced Clothing.....	1
Home Economics 114: Family Sewing.....	1
Total college-session hours.....	17 2-3

JUNIOR YEAR

English 110: Fundamentals of Speech.....	1
English 206: Advanced Composition.....	1
English: Any Junior or Senior Literature.....	1
Biology 202: Bacteriology.....	1 1-3
Chemistry 100: Organic Chemistry.....	2
Hygiene and Sanitation 200, 201.....	2
Sociology 100, 101, 102: Principles of Sociology.....	3
Home Economics 205: Dietetics.....	1
Home Economics 206, 207: The Chemistry of Food and Nutrition.....	2
Home Economics 209: Experimental Cookery.....	1
Education 204: Secondary Education.....	1
Total college-session hours.....	16 1-3

SENIOR YEAR

History 207, 208: Economic History.....	2
History 260: History of Louisiana.....	1
Art 365.....	1
Home Economics 218: Interior Decoration.....	2-3
Home Economics 214: Child Care.....	1 1-3
Home Economics 227: Economics of the Household.....	1
Home Economics 309: Demonstration Cookery.....	1
Home Economics 350: Home Management.....	2
Education 108: Observation and Practice Teaching.....	2
Education 205: Secondary Education.....	1
Education 311: Tests and Measurements.....	1
Education 355: Materials and Methods, H. E.....	1
Total college-session hours.....	15
TOTAL college-session hours in the curriculum.....	66 2-3

N. B. Students not preparing to teach Home Economics will substitute elective courses in Home Economics for the courses in Education listed in this curriculum. In the event the Department of Home Economics is not offering available electives, students may substitute academic subjects approved by the head of the Department of Home Economics.

SCIENCE-MATHEMATICS

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3	
Mathematics 1, 2, 3: Algebra, Geometry, Trigonometry.....	3	
Foreign Language	3	
Biology or Chemistry.....	5	
Drawing (Engineering 50, 51)	2	
Library Technic 1, 2	2-3	
Total college-session hours.....		16 2-3

SOPHOMORE YEAR

English 100, 101: Survey of English Literature.....	2	
English 102: Survey of American Literature or		
English 110: Fundamentals of Speech.....	1	
Foreign Language	3	
Mathematics 100: Advanced College Algebra.....	1	
Mathematics 101, 102: Analytical Geometry.....	2	
Physics or Chemistry or Biology.....	5	
Psychology 100, 101, 102.....	3	
Total college-session hours.....		17

JUNIOR YEAR

Mathematics or Physics or Biology or Chemistry, at least..	8	
Education 108: Observation and Practice Teaching.....	2	
Education 204, 205, 206: Secondary Education.....	3	
Education 252: Materials and Methods, Science.....	1	
Elective	1	
Total college-session hours, at least 15.....		15

SENIOR YEAR

Physics or Chemistry, or Biology.....	5	
Sociology 100, 101, 102: Principles of Sociology.....	3	
Education 311: Tests and Measurements		
in the Secondary School.....	1	
Education 109: Observation and Practice Teaching.....	2	
Education 356: Materials and Methods, Mathematics.....	1	
Elective.....	4	
Total college-session hours.....		16
TOTAL college-session hours in the curriculum.....		64 2-3

LOWER-ELEMENTARY GRADES

FRESHMAN YEAR

English 1, 2, 3: Freshman Composition.....	3
English 10, 11, 12: Children's Literature.....	3
Biology, or Chemistry.....	5
Mathematics 1, 2, 3: Algebra, Geometry, Trigonometry.....	3

Music 1, 2, 3: Singing and Dictation.....	2	
Library Technic 1, 2	2-3	
Total college-session hours.....		16 2-3

SOPHOMORE YEAR

English 100, 101, 102: English and American Literature.....	3	
Physics, or Chemistry, or Biology.....	5	
Art 1, 2, 3: Educational Art.....	2	
Psychology 100, 101, 102.....	3	
Education 80: Natural Science.....	1	
Education 125, 126: Geography.....	2	
Total college-session hours.....		16

JUNIOR YEAR

English 110: Fundamentals of Speech.....	1	
English 206: Advanced Composition or English 233: Journalism.....	1	
English 208: The Short Story.....	1	
History 1, 2, 3: Modern European History.....	3	
History 207: U. S. Economic History.....	1	
Sociology 100, 101, 102: Principles of Sociology.....	3	
Hygiene and Sanitation 200, 201.....	2	
Education 106: Observation and Practice Teaching.....	2	
Education 201: Principles of Teaching, or Education 200.....	1	
Education 255: Materials and Methods, Reading.....	1	
Education 256: Materials and Methods, Language and Spelling.....	1	
Education 260: Language.....	1	
Total college-session hours.....		18

SENIOR YEAR

English 210: The Novel.....	1	
English 214: Romantic Poetry, or English 215, Victorian Poetry	1	
English 218: Shakespeare.....	1	
History 100, 101, 102: U. S. History.....	3	
History 208: U. S. Economic History.....	1	
History 260: History of Louisiana.....	1	
Art 200, 201, 202: Advanced Educational Art.....	2	
Education 102: Materials and Methods, Arithmetic, History, and Geography.....	1	
Education 107: Observation and Practice Teaching.....	2	
Education 110: Classroom Management.....	1	
Education 120: Tests and Measurements.....	1	
Education 303: Arithmetic.....	1	
Total college-session hours		16
TOTAL college-session hours in the curriculum.....		66 2-3

UPPER-ELEMENTARY GRADES

FRESHMAN AND SOPHOMORE YEARS

Identical with the Curriculum for the Lower-Elementary Grades.

JUNIOR AND SENIOR YEARS

Identical with the Curriculum for the Lower-Elementary Grades, except for these substitutions: For the courses in the Materials and Methods of (1) Reading, (2) Language and Spelling, and (3) Arithmetic, History, Geography, in the Lower-Elementary Grades, substitute three courses similar in content but adapted to the Upper-Elementary Grades.

TWO-YEAR TEACHER-TRAINING COURSE

LOWER-ELEMENTARY GRADES

FIRST YEAR

English 1, 2, 3: Freshman Composition.....	3	
English 10: Children's Literature.....	1	
Biology 50: General Biology.....	12-3	
Hygiene and Sanitation 200, 201.....	2	
Art 1, 2, 3: Educational Art	2	
Psychology 50, 51.....	2	
Education 50: Introduction to Education.....	1	
Education 70: Materials and Methods, Reading, etc.....	1	
Education 80: Natural Science.....	1	
Education 106: Observation and Practice Teaching.....	2	
Total college-session hours.....		16 2-3

SECOND YEAR

English 12: Story Telling.....	1	
English 100, 101: Survey of English Literature.....	2	
English 110: Public Speaking.....	1	
History 50, 51: U. S. History.....	2	
Music 1, 2, 3: Singing and Dictation.....	2	
Education 102: Materials and Methods, Arithmetic, etc.....	1	
Education 107: Observation and Practice Teaching.....	2	
Education 110: Classroom Management.....	1	
Education 120: Tests and Measurements	1	
Education 125, 126: Geography.....	2	
Education 129: Community Civics.....	1	
Library Technique 1, 2.....	2-3	
Total college-session hours.....		16 2-3
TOTAL college-session hours in the curriculum.....		33 1-3

TWO-YEAR TEACHER-TRAINING COURSE UPPER-ELEMENTARY GRADES

FIRST YEAR

English 1, 2, 3: Freshman Composition.....	3	
English 10: Children's Literature, or English 12: Story Telling.....	1	
Biology 50: General Biology.....	1	2-3
Hygiene and Sanitation 200, 201.....	2	
Art 1, 2, 3: Educational Art.....	2	
Psychology 50, 51.....	2	
Education 50: Introduction to Education.....	1	
Education 71: Materials and Methods, Reading, etc.....	1	
Education 80: Natural Science.....	1	
Education 106: Observation and Practice Teaching.....	2	
Total college-session hours.....		16 2-3

SECOND YEAR

English 100, 101, 102: Select two of these courses.....	2	
English 110: Public Speaking.....	1	
English 12: Story Telling.....	1	
Music 1, 2, 3: Singing and Dictation.....	2	
History 50, 51: U. S. History.....	2	
Education 103: Materials and Methods, Arithmetic, etc.....	1	
Education 107: Observation and Practice Teaching.....	2	
Education 110: Classroom Management	1	
Education 120: Tests and Measurements.....	1	
Education 125, 126: Geography.....	2	
Education 129: Community Civics.....	1	
Library Technique 1, 2.....	2-3	
Total college-session hours.....		16 2-3
TOTAL college-session hours in the curriculum.....		33 1-3

NOTICE

Instruction in Physical Training for six quarters is required of all students pursuing Teacher-Training courses.

Instruction in penmanship is given all students of Teacher-Training courses until they have acquired facility and legibility in handwriting, a requirement made by the State Board of Education.

Library Technique, 1 and 2, are required of all Teacher-Training students and may be taken in any year of the four years of the Baccalaureate Degree Curricula in Education.

DESCRIPTION OF COURSES

AGRICULTURE

RAYMOND LESLIE REESE, Assistant Professor.

AGRICULTURE 1: *Stock Judging and Breed Types.*

This course consists of a study of the origin, native home, early development, adaptability, and distribution of the various classes of domestic livestock, together with livestock judging. The judging work includes the placing of animals by use of the score card, and by comparative judging in the show ring. Three lecture hours, four laboratory hours. Fall. One and two-thirds hours credit.

AGRICULTURE 2: *Stock Judging and Breed Types.*

Continuation of Agriculture 1. Three lecture hours, four laboratory hours. Winter. One and two-thirds hours credit.

AGRICULTURE 3: *Stock Judging and Breed Types.*

Continuation of Agriculture 2. Three lecture hours, four laboratory hours. Spring. One and two-thirds hours credit.

AGRICULTURE 50: *Feeding of Farm Animals.* The principles of animal nutrition; digestibility and composition of feeds; value and preparation of feeds; selection of feeds for balanced rations; the economical feeding of farm animals. Three lecture hours. Fall. One hour credit.

AGRICULTURE 51. *Breeding of Live Stock.* The principles underlying live stock breeding; the applications of these principles to practical breeding; a consideration of the methods used by successful breeders in developing families and strains; inbreeding; line breeding; outcrossing. Three lecture hours. Winter. One hour credit.

AGRICULTURE 52. *Milk Production.* The secretion and composition of milk; factors affecting the quantity and quality of milk; calf-raising. Three lecture hours. Spring. One hour credit.

AGRICULTURE 101: *Elementary Dairying*. Composition of milk and its products; use of the lactometer; methods of cream raising and separation; methods of producing and handling clean milk; the milk house; milk and cream testing. Six laboratory hours. Fall. One and one-third hours credit.

AGRICULTURE 102: *Poultry Production*. The care, the feeding, breeding and management of the farm flock; use of incubators and brooders; poultry marketing; selection and judging; general problems of the poultry management. Winter. Three lecture hours. One hour credit.

AGRICULTURE 103: *Swine Production*. The feeding, breeding, care and management for both market and breeding purposes. General problems in swine production. Three lecture hours. Spring. One hour credit.

AGRICULTURE 150: *Diseases of Farm Animals*. Discussion of the most common infectious and non-infectious diseases; diagnosis; prevention; treatment. Three lecture hours. Fall. One hour credit.

AGRICULTURE 151: *Vegetable Gardening*. Planning, planting, and equipping the farm garden. Fertilizing, spraying, harvesting, marketing, coldframes, hotbeds. Three lecture hours. Winter. One hour credit.

AGRICULTURE 152: *Farm Work Stock*. The feeding, breeding, care and management of horses and mules. Three lecture hours. Spring. One hour credit.

AGRICULTURE 153: *Beef Cattle and Sheep Production*. A study of the general problems involved in the feeding, breeding, care, management, and marketing beef cattle and sheep. Three lecture hours. Spring. One hour credit.

AGRICULTURE 201: *Forage and Pasture Crops*. The growth, distribution, culture and uses of forage and pasture crops with especial reference to the south; the harvesting and preservation of alfalfa, cowpeas, soy beans, vetches, clovers, sorghums and various grasses; problems of pasture and meadow management. Three lecture hours. Fall. One hour credit.

AGRICULTURE 202: *Southern Field Crops*. A study of the characteristics, adaption, food requirements, cultivation, harvesting, storing, fertilization, rotations of field crops grown in the south. Three lecture hours. Winter. One hour credit.

AGRICULTURE 203: *Fruit Growing*. Orchard management; problems of location, soils, planting, cultivating, protection from disease and insects, pruning and harvesting. Three lecture hours. Spring. One hour credit.

AGRICULTURE 250: *Injurious Insects of the Farm, the Garden, and the Orchard*. Detailed study of the life history, distribution, and control methods of such insects. Three lecture hours. Fall. One hour credit.

AGRICULTURE 251: *Farm Marketing*. A study of the economic principles involved in the marketing of farm products; market quotations, prices, fluctuations; methods and cost of marketing; the relations of government to marketing; the possible improvements in markets and marketing machinery; the possibilities and limitations of co-operative marketing. Three lecture hours. Winter. One hour credit.

AGRICULTURE 252: *Soil Physics*. The classification of soils; organic matter, soil structure and its modifications; forms of soil moisture and its control; soil heat; soil air; absorptive properties of soils; acid soils; soil life. Three lecture hours, four laboratory hours. Spring. One and two-thirds hours credit.

AGRICULTURE 253: *Diseases of Plants*. A study of the more common and important diseases which are injurious to crops of the farm, garden, and orchard. The life history, characteristics, identification and control of the various organisms which cause diseases of plants. Three lecture hours. Spring. One hour credit.

AGRICULTURE 301: *Soil Fertility and Fertilizers*. A study of the producing capacity of soils; crop requirements; nature and sources of plant food; exhaustion; the maintenance and increase of fertility; green manures; farm manures; commercial fertilizers. Three lecture hours, four laboratory hours. Fall. One and two-thirds hours credit.

AGRICULTURE 302: *Farm Management*. Lectures and recitations on methods of farming adapted to southern conditions; selecting the farm; the organization and development of the farming system; financing the operations. Three lecture hours. Winter. One hour credit.

AGRICULTURE 350: *Farm Butchering and Curing Meats*. Lectures, demonstrations and practice in the selection of animals for slaughter; the best methods employed in killing and dressing hogs and beeves; cutting up the carcass; the making of sausage and other by-products; preparation of pickle for curing; handling of meats for curing; the curing and smoking of meats. One lecture hour, four laboratory hours. Winter. One hour credit.

AGRICULTURE 351: *Farm Accounting*. A course in bookkeeping and accounting especially adapted for farm uses; production costs, the farm income from various branches of the operations. Six laboratory hours. Winter. One hour credit.

AGRICULTURE 352: *Farm Machinery*. The construction, adjustment, operation and repair of various types of farm machinery for tillage, seeding, cultivating, harvesting and fertilizing. One lecture hour, four laboratory hours. Spring. One hour credit.

AGRICULTURE 353: *Farm Drainage and Terracing*. Surveying with especial applications to farm drainage and terracing; open ditches, tile drainage; terraces. One lecture hour, four laboratory hours. Spring. One hour credit.

AGRICULTURE 354: *Advanced Dairying*. A study of advanced problems in dairy production. Three lecture hours. Spring. One hour credit.

AGRICULTURE 355: *Farm Buttermaking and Creamery Practice*. Types of creameries; raw products; grading; pasteurizing; use of commercial starters; ripening; churning; salting and working of butter. Three lecture hours, four laboratory hours. Spring. One and two-thirds hours credit.

ART

F. ELIZABETH BETHEA, B. Design, Associate Professor.

MARY MOFFETT, B. Design, Instructor.

CHARLOTTE WILSON, Art; B. Design, Instructor.

The student who has as a major English, foreign language, social science, music, or home economics may elect art courses for which he is eligible. The election of such courses must be approved by the head of the department in which he is registered and by the head of the Department of Art.

Art 3 and Art 200, 201, 202 are open to students in the Department of Education only.

Art 175 is open to students in the Department of Home Economics only.

ART 1, 2: *Freshman Art*. An elementary course designed as a foundation for the study of costume design, interior decoration, pattern making and the study of art instruction in the elementary schools. Principles and practice of design, color and drawing, with a limited use of light and shade. Required of all Education and Home Economics students. Four studio hours. Fall and winter. For each, two-thirds of an hour credit.

ART 3: *Educational Art*. Free-hand lettering and design. Poster composition. Simple problems in bookbinding. Prerequisite, Art 2. Four studio hours. Spring. Two-thirds of an hour credit.

ART 11, 12: *Elementary Design*. The principles and practice of design as applied to decorative ornament, and, in its larger sense, to graphic expression in all forms; the making of abstract patterns and patterns adapted from plant and flower forms, with especial attention to design motifs of a local character. Prerequisite, Art 1. Two studio hours. Winter and spring. For each, one-third of an hour credit.

ART 21, 22: *Elementary Water-Color Painting*. A training in color sense to accompany training in form sense in con-

current courses. The painting of pottery, plants, and flowers on a white ground. Prerequisite, Art 1. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 50, 51, 52. *Free-hand Drawing*. A study of the principles underlying all representative drawing. Application of these principles to sketching from still life and nature. Development of an appreciation of fine proportion through its delineation. Four studio hours. Fall, winter, spring. For each, two-thirds of an hour credit.

ART 110, 111, 112: *Theoretical Design*. Instruction in problems of pure design arising in patterns of form and color. Prerequisite, Art 12. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 120, 121, 122: *Advanced Water-Color Painting*. Painting from still life and flowers with attention to the pictorial problem of composition, the use of light and shade, the application of color theory and principles of perspective. Prerequisite, Art 22. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 130, 131, 132: *Pictorial Composition*. The development of self expression through the execution of subjects chosen and completed independently. Weekly exhibition and criticism of work. One lecture hour. Fall, winter, spring. For each, one-third of an hour credit.

ART 143, 144, 145. *Jewelry Making*. Elective. The execution from original designs of pins, rings, pendants, etc., in silver, and of bowls, book-ends, etc., in copper and brass. Prerequisite Art 12 or Art 175. Laboratory fee, \$3.00. Four studio hours. Fall, winter, spring. For each, two-thirds of an hour credit.

ART 175: *Home-Economics Art*. Advanced practice in design and drawing for use in poster-making and composition. Prerequisite, Art 2. Four studio hours. Spring. Two-thirds of an hour credit.

ART 200, 201, 202: *Advanced Educational Art*. (A course

open to students in Education registered for the four year course.) Advanced practice in design and drawing, development of lesson plans, and organization of courses of study. Correlation of art with nature study, geography, literature, and other courses. Prerequisite, Art 3. Laboratory fee, \$1.50. Four studio hours. Fall, winter, spring. For each, two-thirds of an hour credit.

ART 210, 211, 212: *Advanced Design*. Instruction in the making of original designs for use in book decoration, china painting, book-plates, posters, and jewelry making. Study of the decorative possibilities of freehand lettering. Prerequisite, Art 112. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 220, 221, 222: *Oil Painting*. A course essentially similar in method and aim to advanced water-color painting. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 230, 231, 232: *Pictorial Composition*. A continuation of Art 132. One lecture hour. Fall, winter, spring. For each, one-third of an hour credit.

ART 250, 251, 252: *Life Drawing*. Practice in drawing and painting from the head and figure, using costumed models. Prerequisite, Art 52. Four studio hours. Fall, winter, spring. For each, two-thirds of an hour credit.

ART 260: *Materials and Methods*. Practice in the forms of art for use in elementary schools. Application of design, theory, and color theory to elementary school projects. Six studio hours. Spring. One hour credit.

ART 261: *Materials and Methods*. Study of educational and practical values of art in the elementary schools. Correlation of art with other studies. Practice in making lesson plans and organizing courses of study. Three lecture hours. Spring. One hour credit.

ART 310, 311, 312: *Advanced Design*. The application of design principles and color theory to illustration and advertising. Study of printing processes in design reproduction. Prerequisite,

Art 212. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 320, 321, 322: *Oil Painting*. (Elective) A continuation of Art 222. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 325, 326, 327: *Water-Color Painting*. (Elective). Prerequisite, Art 222. Two studio hours. Fall, winter, spring. For each, one-third of an hour credit.

ART 330, 331, 332: *Pictorial Composition*. A continuation of Art 232. One lecture hour. Fall, winter, spring. For each, one-third of an hour credit.

ART 364: *Art Appreciation*. Principles of line, mass, and color as a basis for critical appraisal. These principles as applied to the fine arts and to the arts and crafts. Three lecture hours. Fall. One hour credit.

ART 365: *Picture Study*. An introduction to the appreciation of modern masters of painting. Notes prepared in the library and illustrated by prints. Three lecture hours. Winter. One hour credit.

ART 366: *History of Sculpture*. A brief survey of the history of sculpture. Notes prepared in the library and illustrated by prints. Three lecture hours. Spring. One hour credit.

ART 367: *History of Art*. Brief survey of Italian painting. Notes prepared in the library and illustrated by prints. Prerequisite, Art 365. Three lecture hours. Fall. One hour credit.

ART 368: *History of Art*. Brief survey of Dutch, Spanish, and German painting. Notes prepared in the library and illustrated by prints. Prerequisite, Art 365. Three lecture hours. Winter. One hour credit.

COMMERCE

LOUIS M. PHILLIPS, B. A., Associate Professor.

LUCILLE CAMPBELL, B. A., Assistant Professor.

COMMERCE 1: *Single Proprietorship Accounting*. Uses of accounting and bookkeeping; entries for simple business transactions; practice bookkeeping; simple statements. Fall, winter, spring. One hour credit.

COMMERCE 2: *Partnership Accounting*. A study of partnerships; accounts and bookkeeping for a partnership; working sheets; adjusting entries; closing the books; financial statements. Prerequisite, Commerce 1. Fall, winter, spring. One hour credit.

COMMERCE 3: *Corporation Accounting*. The corporation; kinds of stock; how incorporated; bookkeeping practice and working papers. Prerequisite, Commerce 2. Fall, winter, spring. One hour credit.

COMMERCE 100: *Typewriting*. Constant practice in touch typewriting for correct fingering and speed; care and use of the machine. Fall, winter, spring. One hour credit.

COMMERCE 101: *Stenography*. Principles of Gregg stenography with simple dictation. Fall, winter, spring. One hour credit.

COMMERCE 102: *Stenography and Typewriting*. Practice in taking notes readily and transcribing them neatly on typewriter. Speed practice in dictation, transcription, and typing from plain copy. Prerequisite, Commerce 100, 101. Fall, winter, spring. One hour credit.

COMMERCE 105: *Business Correspondence*. The study, discussion, and writing of business letters, reports, etc. Prerequisite, English 1, 2, 3. Winter. One hour credit.

COMMERCE 150: *Cost Accounting*. A study of cost systems; bookkeeping and accounting peculiar to cost systems;

fire losses; financial statements. Prerequisite, Commerce 3. Fall, winter, spring. One hour credit.

COMMERCE 151: *Business Practice*. Practical bookkeeping and accounting for the three types of business; exercises and problems for testing the ability of the student to apply what he knows about accounting. Prerequisite, Commerce 3. Fall, winter, spring. One hour credit.

COMMERCE 152: *Banking Practice*. Bookkeeping and accounting for a medium sized bank; keeping books for the school bank; making bank statements. Prerequisite, Commerce 3. Fall, winter, spring. One hour credit.

COMMERCE 200: *Advanced Accounting*. A study of higher accounting; problems met in practical accounting; solutions and statements; laboratory work; sample C. P. A. problems studied and solved. Prerequisite, Commerce 150, 151, 152. Fall, winter, spring. One hour credit.

COMMERCE 201: *Advanced Accounting*. Continued. Prerequisite, Commerce 200. Fall, winter, spring. One hour credit.

COMMERCE 202: *Office Practice*. Study of secretarial duties and practices, and general office management. Practice in use of the files, mimeograph, and calculating machines. Prerequisite, Commerce 102. Spring. One hour credit.

COMMERCE 225: *Economic Geography*. Inter-commercial relations; commodities; trade routes; climatic conditions; economic relations. Fall, winter. One hour credit.

COMMERCE 226: *Economic Geography*. Continued. Prerequisite, Commerce 225. Fall, winter. One hour credit.

EDUCATION

GUSTAF FREDEN, Ph. D., Professor and Head of the Department.

THOMAS A. GREEN, M. A., Associate Professor.

WILLIS B. HALE, M. A., Associate Professor.

ANDY EUGENE PHILLIPS, M. A., Associate Professor.

The Louisiana Polytechnic Institute is one of the colleges approved by the State Board of Education for the professional preparation of teachers. Through its Department of Education Tech offers its fullest co-operation to the State Board of Education in giving the schools of the state professionally trained teachers.

The Department of Education is organized into six curricula leading to the Baccalaureate Degree in Education, and two curricula of two years each leading to a teachers' certificate. Each curriculum is designed to prepare for a specific type of teaching service. Therefore, the new student enrolling in the department should consult the head of the department for advice in choice of curriculum.

Students completing the two-year curriculum for elementary teachers are given a professional elementary teachers' certificate, valid for life, provided the said two years' work includes the required courses in Education and Psychology. This gives to these students an equal rating with graduates from the Teacher-Training Courses in other higher educational institutions of Louisiana.

Students who complete a four-year curriculum are granted the Bachelor's Degree and are entitled to teach in any approved high school in the state; and, to teach in any of the accredited schools belonging to the Association of Colleges and Secondary Schools of the Southern States.

Students should read carefully the description of each course as given below in order to take notice of its prerequisites.

✓ EDUCATION 50: *Introduction to Education*. Open only to students in the two-year courses in Teacher-Training for ele-

EDUCATION 200: *History of Elementary Education.* The main purpose of this course is to contribute directly to the student's understanding of the problems of the elementary school. Special emphasis is laid upon changes in curricula and methods of school systems since the sixteenth century. Fall, spring. One hour credit.

EDUCATION 201: *Principles and Technique of Teaching in Elementary Schools.* A summary of the fundamental principles underlying the teaching process as applied to elementary schools. Winter, spring. One hour credit.

EDUCATION 204: *Secondary Education.* A study of the development, present tendencies, and probable future of organization and management in secondary schools. Prerequisite, Psychology 102. Fall. One hour credit.

EDUCATION 205: *Secondary Education.* A study of important problems within the secondary school: the principal, the board, failures, elimination, discipline, guidance, extra-curricular activities, dean or girls, etc. Winter. One hour credit.

EDUCATION 206: *Secondary Education.* A study of teaching in the secondary school; the adolescent pupil, different methods and materials, planning the instruction, class procedure, survey of the technique of the different subjects, etc. Spring. One hour credit.

EDUCATION 250: *Materials and Methods in English.* Same as English 266. Fall. One hour credit.

EDUCATION 251: *Materials and Methods in Foreign Language.* (Not offered in 1930-1931).

EDUCATION 252: *Materials and Methods in Science.* (Not offered in 1930-1931).

EDUCATION 255: *Materials and Methods in Reading.* (Not offered in 1930-1931).

EDUCATION 256: *Materials and Methods in Language and Spelling.* (Not offered in 1930-1931).

EDUCATION 260: *Language*. (Not offered in 1930-1931).

EDUCATION 303: *Arithmetic*. (Not offered in 1930-1931).

EDUCATION 233: *Educational Sociology*. An introduction to the study of the school as a social institution, its relation to other institutions and forces, and its function as a determining and controlling agency. Prerequisite, Psychology 102, Sociology 100. Winter. One hour credit.

EDUCATION 311: *Tests and Measurements in the Secondary School*. A course designed to give facility in the selection and administration of standardized and new-type examinations and the guiding principles of their use in the secondary school. Prerequisite, Psychology 102. Fall, spring. One hour credit.

EDUCATION 350: *Materials and Methods in the Social Sciences*. Spring. One hour credit.

EDUCATION 355: *Materials and Methods in Home-Economics*. Winter. One hour credit.

EDUCATION 356: *Materials and Methods in Mathematics*. Fall, winter. One hour credit.

PSYCHOLOGY

PSYCHOLOGY 50: *General Psychology*. (Open only to students enrolled in the Two-Year Teacher-Training curricula). A general introductory course in the study of human behavior. Fall, winter. One hour credit.

PSYCHOLOGY 51: *Educational Psychology*. (Open only to students enrolled in the two-year teacher-training curricular). A study of the basic psychological principles as applied to the learning of the elementary school child. Prerequisite, Psychology 50. Fall, winter, spring. One hour credit.

PSYCHOLOGY 100: *General Psychology*. A study of the fundamental processes and problems of human behavior, in-

cluding a survey of recent experimentation and trends in psychology. (Not open to freshmen). Fall. One hour credit.

PSYCHOLOGY 101: *Educational Psychology*. A consideration of the psychological principles underlying education, and their application in learning. Includes the original nature, the nature of learning, and individual differences. Prerequisite, Psychology 100; in exceptional cases, Psychology 50. Winter. One hour credit.

PSYCHOLOGY 102: *Mental Hygiene*. A study of the mental health of the school child, his problems of adjustment, his fears, compulsions, conflicts, inhibitions, etc. The development of balance, poise and personality. Also a detailed study of the hygiene of instruction. Prerequisite, Psychology 101; in exceptional cases, Psychology 51. Spring. One hour credit. o

TEACHER-TRAINING SCHOOL

There is conducted on the campus a well-equipped and officered Teacher-Training School which is kept "rigidly distinct and separate from the college students, faculty, buildings and discipline." The school embraces eleven grades of the public school system of Louisiana, seven elementary and four secondary grades, and its work conforms with the courses of study of the Elementary and Secondary Schools as prescribed by the State Department of Education of Louisiana. Its faculty is composed of twelve specially trained and experienced critic teachers who are under the immediate supervision of the Director of the Teacher-Training School who, likewise, is Associate Professor of Education in the Department of Education of the College.

The student teachers are assigned to their special work in observation and practice teaching by the head of the Department of Education and in turn by the Director of the Teacher-Training School to the critic teacher in charge of the particular subjects to be observed.

Each critic teacher holds one general meeting each week with each group of student-teachers, as well as special conferences

with individuals when it is thought necessary. While the major portion of the time of the critic teachers is devoted to the instruction of the pupils of the Teacher-Training School, adequate opportunity for observation of wise practices in teaching is offered student-teachers, followed by practice teaching under the close and careful observation of the critic teachers. Every possible effort is exerted toward providing the most favorable conditions for the observation and use of approved methods of procedure in class room instruction.

ENGLISH AND FOREIGN LANGUAGES

PEARL HOGREFFE, Ph. D., Professor and Head of Department.

ADDIE LOIS FINE, M. A., Associate Professor.

MADISON F. HALL, M. A., Associate Professor.

KENNETH F. HEWINS, M. A., Assistant Professor.

GEORGE EDWARD PANKEY, M. A., Associate Professor.

MINNIE ROZEBOOM, M. A., Assistant Professor.

H. J. SACHS, M. A., Instructor.

EUGENIA H. SMITH, M. A., Associate Professor.

VIVIAN D. TURNER, M. A., Associate Professor.

MILDRED F. WALKER, M. A., Assistant Professor.

EUNICE COON WILLIAMSON, B. A., Instructor.

The following suggestions are made chiefly for English majors and minors on the Academic Curriculum:

Freshman or sophomore work, taken here or elsewhere, may not count on the nine hours required for a major nor the six hours for a minor. These amounts for major and minor are to be considered a minimum; and majors are advised, in a field as broad as English, to choose more if possible. For a language minor, French will be useful in graduate work, and Spanish in commercial fields. Courses not to be estimated in the nine hours major or six hours minor are English 1, 2, 3; 10, 11, 12; 100, 101, 102; 110, 110B, and 115.

Majors and minors in English are advised to take some work in speech. Not more than three of the advanced courses in speech may apply on the nine hours for a major, and not more than two on the six hours for a minor. English majors

who intend to teach in high school should take one or more journalism courses (English 233, 234) to count among their electives, and should take History 280, 281, 282. Majors should have these and other advanced courses: English 206, 209, 214 or 215, 222, 217, 218, 219. Every minor should have at least one course in advanced composition, English 206, or 209.

Students who have not completed English 100, 101, 102 should not enroll in advanced literature and composition, except that good students may sometimes, by special permission, take one advanced course with English 102.

ENGLISH 00: *Sub-Freshman Composition*. A review of elementary principles of grammar and composition to make up high school deficiencies. Required of freshmen who, in preliminary tests, show themselves unprepared for English 1, 2, 3. Fall, winter, spring. No credit.

ENGLISH 1: *Freshman Composition*. Review of grammatical usage, punctuation. Stress on diction, sentence structure, building paragraphs. Required of all freshmen. Credit in English 00 is a prerequisite for those who do not give evidence of ability in entrance tests. Fall, winter, spring. One hour credit.

ENGLISH 2: *Freshman Composition*. Exposition and argumentative types. Use and organization of library material, footnotes, bibliography. Prerequisite, credit in English 1. Fall, winter, spring. One hour credit.

ENGLISH 3: *Freshman Composition*. Narration and description, to develop appreciation, self-expression, and use of language. Prerequisite, credit in English 2. Fall, winter, spring. One hour credit.

NOTE: English 1, 2, 3, 100, 101, and 102 are to be taken in numerical order, only one course at a time.

ENGLISH 10: *Children's Literature*. The study of Mother Goose rhymes; traditional and modern fairy tales; children's poetry; realistic, historical, biographical, and nature stories for children. No prerequisite. Not for credit except on those education curricula where it is required. Fall. One hour credit.

ENGLISH 11: *Children's Literature*. The study of Greek, Roman, and Norse myths, legends, and fables for children. Prerequisite, English 10. Not for credit except on those education curricula where it is required. Winter. One hour credit.

ENGLISH 100: *Survey of English Literature*. An outline of English literature from its beginning to 1744. Prerequisite, English 1, 2, 3. Fall, winter, spring. One hour credit.

ENGLISH 101: *Survey of English Literature*. An outline of English literature from 1744 to 1900. Prerequisite, English 100. Fall, winter, spring. One hour credit.

ENGLISH 102: *Survey of American Literature*. A study of American literature from the Colonial Period to the present day. Prerequisite, English 100, 101, except for those whose curricula permit the substitution of English 102 for either English 100 or English 101. Fall, winter, spring. One hour credit.

ENGLISH 115. *Literary Types*. The meaning of literature and the principles of poetry. Preparation for more advanced courses. For sophomores. Prerequisite, English 1, 2, 3. Spring. One hour credit.

ENGLISH 206: *Advanced Composition*. Expository types. Main aim: utility, with some stress on artistic appreciation and self-expression. Prerequisite, English 100, 101, 102. Students who take both 206 and 209 should have 206 first. Fall, spring. One hour credit.

ENGLISH 208: *The Short Story*. The study of the history and development of the short story. Analysis of various types of short stories, in English, American, and foreign literature. Some writing of descriptive and narrative compositions. Prerequisite, English 100, 101, 102. A course intended primarily for those not majoring in English. Spring. One hour credit.

ENGLISH 209: *The Short Story*. A course in composition. Descriptive and narrative types, with emphasis on the short story. Reading of modern and contemporary stories as illustrative material. Prerequisite, English 100, 101, 102. Winter. One hour credit.

ENGLISH 210: *The Novel*. The development of the English novel from its beginnings to the close of the nineteenth century. Prerequisite, English 100, 101, 102. Fall. One hour credit.

ENGLISH 214: *English Poetry*. The Romantic Movement: Wordsworth, Coleridge, Southey, Byron, Shelley, Keats. Emphasis on appreciation of poetry. Prerequisite, English 100, 101, 102. Fall. One hour credit.

ENGLISH 215: *English Poetry*. The Victorians: Tennyson, Browning, Clough, Arnold, the Pre-Raphaelites, Swinburne. Emphasis on appreciation of poetry. Prerequisite, English 100, 101, 102. Spring. One hour credit.

ENGLISH 217: *Pre-Shakespearean Drama*. The historical development of the English drama, including miracle, morality, folk, classic plays, and court masques. Students who take 217, 218, 219, should elect them in numerical order. Fall. One hour credit.

ENGLISH 218: *Shakespeare*. A study of ten or twelve plays, including comedy, history, and tragedy. Prerequisite, English 100, 101, 102. Winter. One hour credit.

ENGLISH 219: *Contemporary Drama*. A study of dramatic influences as they unite in drama of the present time. Spring. One hour credit.

ENGLISH 222: *History of the English Language*. The changes which the language has undergone, the social and historical conditions which have influenced its development, its tendencies today. Winter. One hour credit.

ENGLISH 225: *Contemporary Literature*. A study of the tendencies in English and American prose and poetry of the twentieth century. A course in general reading of poetry, biography, fiction, with emphasis on literary appreciation. Prerequisite, English 100, 101, 102. Spring. One hour credit.

ENGLISH 266: *Materials and Methods in English*. Same as Education 250. Problems and methods concerning the teaching of literature and composition in high school. Students

should complete this course with credit before enrolling for practice teaching in high school English. Prerequisite, English 100, 101, 102. Fall. One hour credit.

ENGLISH: JOURNALISM

ENGLISH 233: *Journalism*. Beginning course in news writing. Theoretical study of newspaper style and mechanical terms, supplemented by practical work on *The Tech Talk*, student newspaper. Prerequisite, English 1, 2, 3. Open to sophomores, juniors and seniors. Fall and winter. One hour credit.

ENGLISH 234: *Copy Editing*. Continuation of English 233, dealing with methods of editing copy and writing headlines. Theory supplemented by work on *The Tech Talk*. Spring. One hour credit.

ENGLISH : SPEECH

Courses numbered 111 or above are intended for advanced credit in speech work.

ENGLISH 12: *Story Telling*. A study of the theory of story telling; criteria for selection of stories. Practice in presentation of different types of stories as required by the state course of study in language. The course supplements English 10 and 11. For people on education curricula, prerequisites, English 10 or 11 and 110. For others, prerequisite, English 110. Winter, spring. One hour credit.

ENGLISH 110: *Fundamentals of Speech*. An elementary study of the scientific principles of speech training and their practical application to habitual speech. Speech sounds studied both analytically and synthetically. A phonetic approach made to clear articulation, correct pronunciation, and pleasing and effective voice production in conversation. Voice and speech studied as parts of one process, the purpose of which is the adequate expression of thought and feeling. Drill in correlation of mental and vocal aspects of speech. No prerequisite. Not open to freshmen. Fall, winter, spring. One hour credit.

ENGLISH 110B: *Voice and Diction*. Individual voice analysis. Correction of particular faults of voice and speech. Aim

of course: to establish habits of breathing, voice quality, vowel placement, consonant formation and pronunciation which will unite to form a modified standard speech. Required of students whose habitual speech handicaps them for advanced courses. Prerequisite, English 110. Fall, winter, spring. One hour credit.

ENGLISH 111: *Fundamentals of Public Speaking*. Study of the speaker's personality in its relation to public speaking. Continuation of voice development. Preparation for gaining platform technique. Analysis of the speaker's problems. Study of the plan, movement and style in the proper construction of the three parts of the purposive speech. Correlation of construction and delivery. Approach made through the study of the speech purpose. Prerequisite, English 110. Winter. One hour credit.

ENGLISH 112: *Public Speaking*. Study of speech models; construction and delivery of the different types of speeches based on the psychology of pupils speaking. Prerequisites, English 110, 111. Spring. One hour credit.

ENGLISH 113: *Fundamentals of Literary Interpretation*. The study and oral interpretation of selections to acquire vocal skill in subordination, coordination and intensification of thought and the four forms of emphasis. Study of emotional background of literary units and its relation to tone color. Practice in oral interpretation by the rhythmic approach, the narrative approach, and by the imaginative recreation of mood. Prerequisite, English 110. Fall. One hour credit.

ENGLISH 114: *Interpretative Reading*. Practice in interpretation of monologues, of suggestive impersonations, of narrative prose of both humorous and dramatic quality, of the various forms of verse and of dramatic literature. Memorized interpretation of complete units of literature suitable for platform production. Prerequisites, English 110, 113. Spring. One hour credit.

ENGLISH 227: *Argumentation and Persuasion*. A combined written constructive and oral delivery approach made to the analysis of debate questions, briefing, kinds of reasoning, forms of point development, kinds of evidence, methods of refu-

tation, and argumentative and persuasive style. Prerequisites, 110, 111, or consent of instructor. Fall. One hour credit.

ENGLISH 228: *Debate*. Study of formal debate through applications of principles given in English 227. Participation in actual debate. Prerequisites, English 110, 111, 227, or consent of instructor. Winter. One hour credit.

ENGLISH 230: *Contest Coaching*. Designed for the help of the teacher who must train students for the state rally contests. Selections assembled and technique of their interpretation studied. Summer only. One hour credit.

ENGLISH 231: *Play Production*. A theory course in selection of plays, their interpretation, and their staging. For the teacher who handles high school dramatic work. Prerequisites, English 110, 111, 113 or consent of instructor. Winter. One hour credit.

ENGLISH 232: *Play Production*. A study of drama with a view to actual production. Choosing the play and selecting the cast considered. Study made of action, movement, business, steps of rehearsal, necessary organization for production, the director as a teacher, and the mounting of the play. Opportunity afforded for participation in the production of a play. Prerequisites, English 110, 111, 113, 231, or consent of instructor. Offered, spring, if there is demand. One hour credit.

FOREIGN LANGUAGES

SUGGESTION: All students of a foreign language, either French, Latin, or Spanish, are advised to complete a year's sequence without any time interval between courses, or to take two years of required work in one language without any unnecessary interval between courses.

FRENCH

FRENCH 1, 2, 3: *Beginning French*. Fall, winter, spring. One hour credit.

FRENCH 10, 11, 12: *Intermediate French*. Reading and composition. Prerequisite, French 1, 2, 3, or two years of high-school French. Fall, winter, spring. One hour credit.

FRENCH 14, 15, 16: *Advanced French*. Offered alternately with French 20, 21, 22. Not offered in 1930-31. Prerequisite, French 10, 11, 12, or four years of high-school French. Fall, winter, spring. One hour credit.

FRENCH 20, 21, 22: *Survey of French Literature*. Review of French grammar also. Offered alternately with French 14, 15, 16. Offered in 1930-31. Prerequisite, French 10, 11, 12, or four years of high-school French. Fall, winter, spring. One hour credit.

FRENCH 100, 101, 102: *French Classical Drama*. Not offered unless there is a demand. One hour credit.

LATIN

LATIN 1, 2, 3: *Beginning Latin*. For students who have no knowledge of Latin. Study of forms and syntax; reading of prose; practice in composition. Fall, winter, spring. One hour credit.

LATIN 10: *Cicero*. First Catilinarian oration. Selections from the second and third orations against Catiline. Prerequisite, Latin 1, 2, 3, or two years of high-school Latin. Fall. One hour credit.

LATIN 11: *Cicero*. Pro Archia and Manilian Law. Winter. One hour credit.

LATIN 12: *Sallust*. Cataline. Spring. One hour credit.

LATIN 20: *Virgil*. Books I and II. Prerequisite, Latin 10, 11, 12, or three years of high school Latin. Fall. One hour credit.

LATIN 21: *Virgil*. Book II completed, Book III, selections from Books IV, VI. Winter. One hour credit.

LATIN 22: *Cicero*. De Amicitia or De Senectute. Spring. One hour credit.

LATIN 30: *Livy*. Book XXI. Prerequisite, Latin 20, 21, 22, or four years of high school Latin or equivalent. Fall. One hour credit.

LATIN 31: *Latin Poetry*. Selections. Winter. One hour credit.

LATIN 32: *Cicero*. Selected letters. Spring. One hour credit.

LATIN 30, 31, 32 will be offered alternately with Latin 100, 101, 101. Offered in 1930-1931.

LATIN 100: *Horace* (Odes and Epodes). Fall. One hour credit.

LATIN 101: *Plautus* (Captivi). Winter. One hour credit.

LATIN 102: *Pliny*. (Selected Letters). Spring. One hour credit.

In connection with Latin 100, 101, 102, the history of the development of Latin literature is studied. Prerequisite for Latin 100, Latin 20, 21, 22, or four years of high school Latin, or the equivalent. Not offered in 1930-1931.

SPANISH

SPANISH 1, 2, 3: *Beginning Spanish*. Fall, winter, and spring. For each, one hour credit.

SPANISH 10, 11, 12: *Intermediate Spanish*. Reading, composition and grammar review. Prerequisite, Spanish 1, 2, 3, or two years of high school Spanish. Fall, winter, spring. For each, one hour credit.

SPANISH 14, 15, 16: *Advanced Spanish*. Prerequisite, Spanish 10, 11, 12, or four years of high school Spanish. To alternate with Spanish 20, 21, 22. (Not offered 1930-31). Fall, winter, spring. For each, one hour credit.

SPANISH 20, 21, 22: *Survey of Spanish Literature*. Prerequisite, Spanish 10, 11, 12. To alternate with Spanish 14, 15, 16. (Offered 1930-1931). Fall, winter, spring. For each, one hour credit.

SPANISH 100, 101, 102: *Cervantes*. Not offered unless there is a demand. One hour credit.

HOME ECONOMICS

HELEN GRAHAM, M. A., Professor and Head of Department.

STELLA BARTLETT, B. S., Assistant Professor.

CLARINE BELCHER, M. S., Associate Professor.

HELEN HUNT, M. S., Associate Professor.

*ANNA IDTSE, B. S., Associate Professor

*Leave of absence, Columbia University.

The main purpose of this department is to give, along with a standard academic course, special training for home making. Also because of the constant demand for home economics teachers for the secondary schools of Louisiana and other states, the training of teachers has become of equal importance. The teaching of this subject after graduation with the responsibility of its laboratories serves as additional training for home making.

Other fields for which training is offered are those of extension work, business positions in the field of home economics, commercial demonstration, dietitian in hospitals and other institutions, and welfare worker.

The work of this department is along four principal lines: first, foods, cookery, and nutrition; second, clothing, textiles, and supporting arts; third, administration of the home, home management, and child care; fourth, methods of teaching home economics and practice teaching.

The physical plant for instruction in this course consists of two brick buildings with adequate and up-to-date equipment in each. The main building consists of well equipped laboratories and lecture rooms for foods, clothing, home management, and related subjects.

The other building, "Home Management House", is a five-room cottage with large basement for laundering, equipped with modern electrical appliances. Four senior students in a section register for this one-term course and in that time do all the work of the home under supervision of one of the instructors. This

is a practical application of the students previous work in foods, nutrition, dietetics, experimental cookery, and home management. Each girl entertains in various ways so that the unusual home activities as well as the usual ones are experienced. This cottage is also headquarters for various social features on the campus.

The teaching staff is composed of four specialists in home economics besides the critic teacher. There is an enrollment of about one hundred and forty students.

The Home Economics course is open to any high school graduate, regardless of whether or not she has taken this subject in high school.

HOME ECONOMICS 1: *Textiles*. The production, manufacture, distribution, and properties of the principal textile fibers. Three lecture hours. Fall, winter, spring. One hour credit.

HOME ECONOMICS 2: *Clothing*. General methods of clothing construction involved in making simple costumes. Prerequisite, Home Economics 1. One lecture hour, four laboratory hours. Fall, winter, spring. One hour credit.

HOME ECONOMICS 15: *Food Study*. The production, manufacture, distribution, and properties of the principal American foodstuffs. No prerequisite. Three lecture hours. Fall, winter, spring. One hour credit.

HOME ECONOMICS 25: *Pattern Study*. A course in the construction of patterns, variations from given types, their use and adaptations to garments. No prerequisite. Four laboratory hours. Fall, winter, spring. Two-thirds of an hour credit.

HOME ECONOMICS 100: *Costume Design*. The principles of design and color applied to costume; outlines of costume history. Prerequisite, Home Economics 2, Art 76. Four laboratory hours. Fall, winter, spring. Two-thirds of an hour credit.

HOME ECONOMICS 105: *Food Preparation and Serving*. A study of the principles and methods of cookery, applied in the planning, the preparation and the serving of meals.

Prerequisite, Home Economics 15. Lab. fee, \$2.50. One lecture hour, four laboratory hours. Fall, winter, spring. One hour credit.

HOME ECONOMICS 108: *Textiles*. An advanced course in the study of textile fibers; chemical tests of fabrics; decorative dyeing. Prerequisite, Home Economics 1. One lecture hour, two laboratory hours. Fall, winter, spring. Two-thirds of an hour credit.

HOME ECONOMICS 110: *Advanced Clothing*. Advanced work in garment construction and dressmaking. Prerequisite, Home Economics 2, 100. One lecture hour, four laboratory hours. Fall, spring. One hour credit.

HOME ECONOMICS 114: *Family Sewing*. The clothing of infants, children, and adults, from the standpoints of design, construction, cost, and care. Prerequisite, Home Economics 2, 100. One lecture hour, four laboratory hours. Winter, spring. One hour credit.

HOME ECONOMICS 205: *Dietetics*. The practical application of the principles of nutrition to diet. Prerequisites, Home Economics 105, Chemistry 3. Lab fee \$2.50. One lecture hour, four laboratory hours. Winter, spring. One hour credit.

HOME ECONOMICS 206: *Nutrition, The Chemistry of Foods*. Prerequisites, Home Economics 205, Hygiene and Sanitation 201, Chemistry 100. Three lecture hours. Fall, spring. One hour credit.

HOME ECONOMICS 209: *Experimental Cookery*. A scientific investigation of the practice and principles of cookery. Prerequisites, Home Economics 105, Chemistry 100. Lab. fee \$2.50. One lecture hour, four laboratory hours. Fall, spring. One hour credit.

HOME ECONOMICS 214: *Child Care*. A study of the care of the child in its pre-natal life, infancy, pre-school life, childhood, and adolescence. Prerequisite, Home Economics 205, Hygiene and Sanitation 201. Three lecture hours, two laboratory hours. Winter. One and one-third hours credit.

HOME ECONOMICS 218: *Interior Decoration*. A study of the principles that underlie the creation of artistic homes; harmonious home furnishings, period styles in furniture, wall decorations and draperies. Exercises in planning home surroundings. Prerequisite, Art 76. Two lecture hours. Fall, winter. Two-thirds of an hour credit.

HOME ECONOMICS 250: *Economics of the Household*. The economics of the household; its administration and finance. Open to juniors and seniors. Three lecture hours. Winter. One hour credit.

HOME ECONOMICS 309: *Demonstration Cookery*. The principles and practice of food demonstrations from the standpoint of the teacher or of the commercial demonstrator. Prerequisites, Home Economics 205, 209. Lab. fee \$2.50. One lecture hour, four laboratory hours. Winter. One hour credit.

HOME ECONOMICS 350: *Home Management*. A term of residence in the home management house in which all the activities of the home are conducted by the students. Prerequisites, Home Economics 209, 250. Twenty-four laboratory hours. Fall, spring. Two hours credit.

LIBRARY SCIENCE

KATHLEEN GRAHAM, M. A., Librarian.

MAUDE GOYNE GREEN, Assistant Librarian.

MARJORIE C. LEIGH, B. S., Assistant Librarian.

Courses in Library Science are offered to those who wish to qualify as librarians or part time librarians in the high schools of the state. Two courses are being offered: One providing for three college hours, and the other for six. The three-hour course calls for: Book Selection and Allied Topics for School Library; Cataloging and Classification for School Library; and Place, Function, Administration, and Opportunity of The Library in The Modern School.

The six-hour course calls for the above three courses and in addition: Children's Literature and Story Telling; Methods

of Teaching The Use of The Library; and Reference and Bibliography for School Library.

LIBRARY TECHNIQUE 1: *Use of Books and Libraries.* An introductory course in the study of reference books and of library methods as applied to individual study and research and designed to make the student self-directing in searching for information in libraries; instruction in the use of catalogues, indexes, and general reference books and in the selection and purchase of books. Winter. One-third of an hour credit.

LIBRARY TECHNIQUE 2: *Bibliographic Method.* A study of typical bibliographies and of the principles of bibliographic method; examination of reference material, the consideration of problems in its use, and the preparation of reference tests and of an original bibliography in the student's major field of study. Spring. One-third of an hour credit.

LIBRARY SCIENCE 200: *Book Selection and Allied Topics for the School Library.* This course is intended to develop in the student ability to choose the best books for the various types of readers. It includes reading of representative books of different classes, a study of publishers, book reviews and reviewing magazines, and other selection aids. Also, practice is given in compiling lists on special topics, giving reports, and writing critical book notes. Fall and Spring. One hour credit.

LIBRARY SCIENCE 201: *Cataloging and Classification for the School Library.* A discussion of the different systems of classifying and of the general principles of cataloging, followed by instruction and practice in the making of a dictionary catalog, and of classifying books by the Dewey decimal system. Subject headings, shelf-listing, book numbers, alphabeting and filing are also included in this course. Fall and Spring. One hour credit.

LIBRARY SCIENCE 202: *Place, Function, Administration, and Opportunity of the Library in the Modern School.* The first part of this course will be devoted to a brief history of libraries, their development, and their place in modern education. Then there will be lectures, problems and assignments of readings

on the organization and administration of school libraries. A study of loan systems, order work, mechanical preparation of books, statistics, reports, etc., will be included in the course. Fall and spring. One hour credit.

LIBRARY SCIENCE 300: *Children's Literature and Story Telling*. A brief survey is made, first, of the changes that have taken place in material available for children's reading, then the standards of book selection are applied to literature for children. All types of books that are suitable for the child are considered: Picture and story books, poetry, travel, history, science and whatever will serve to interest a child. Consideration is also given to the illustrations and to the effect on the child of the physical make up of a book. Winter. One hour credit.

LIBRARY SCIENCE 301: *Methods of Teaching The Use of The Library*. A detailed study of methods for instruction in the elementary and secondary schools in the use of library tools, such as the card catalog, magazine guides, and reference works, general and special. Methods for interesting boys and girls in reading, both for instruction and recreation, will be stressed. Winter. One hour credit.

LIBRARY SCIENCE 302: *Reference and Bibliography for a School Library*. A course intended to familiarize students with standard reference works, particularly those most valuable to school libraries. These will include dictionaries, encyclopædias, atlases, yearbooks, periodical indexes, with some consideration of general and trade bibliographies. Winter. One hour credit.

MATHEMATICS

J. PERRY COLE, M. S., Professor and Head of Department.

JAMES L. HUTCHESON, B. A., Associate Professor.

ERNEST M. SHIRLEY, B. S., Instructor.

MARGARET WHITE, M. A., Instructor.

ROBERT S. WYNN, B. E., Instructor.

The courses in this department are arranged to fit in with the general courses and also to give the student majoring in mathematics a thorough preparation for teaching, or for graduate specialization. The department has a fine selection of mathematical books in the library and also several mathematical periodicals. The Thatcher Mathematical Club meets once a month and membership is open to all interested students.

In Mathematics 1, 2, and 3, two courses may be taken at one time.

MATHEMATICS 1: *College Algebra*. The quadratic equation; ratio and proportion; the progressions; logarithms; mathematical induction. Fall, winter, spring. One hour credit.

MATHEMATICS 2: *Solid Geometry*. A complete course in solid geometry with a sufficient number of problems to fix principles. Fall, winter, spring. One hour credit.

MATHEMATICS 3: *Trigonometry*. Functions of acute angles; solutions of right angles; functions of multiple angles; solutions of triangles in general; areas of triangles; inverse functions; trigonometric equations. Fall, winter, spring. One hour credit.

MATHEMATICS 100: *Advanced College Algebra*. Graphs, linear functions; quadratic functions; simultaneous quadratic equations; theory of equations; determinants; partial fractions; interest and annuities; complex numbers; permutations and combinations; probability. Prerequisite, Math 1. Fall, winter, spring. One hour credit.

MATHEMATICS 101: *Analytical Geometry*. Cartesian

coordinates; curves; loci; the straight line; the circle; polar coordinates. Prerequisite, Mathematics 2, 3, 100. Fall, winter. One hour credit.

MATHEMATICS 102: *Advanced Analytical Geometry*. General introduction to conic sections; coordinate transformations; the general equation of the second degree; the parabola; the central conics. Prerequisite, Mathematics 101. Winter, spring. One hour credit.

MATHEMATICS 107: *Agricultural Mathematics*. Drawing; graphic solutions; computation; measurement; indirect measurement; trigonometry; surveying; review of algebra; graphic representation of quantities. Fall. One hour credit.

MATHEMATICS 108: *Agricultural Mathematics*, continued. Graphs in algebra; computation by logarithms; progressions; compound interest annuities; depreciation; averages and mixtures. Prerequisite Mathematics 107. Winter. One hour credit.

MATHEMATICS 109: *Agricultural Mathematics* concluded. Geometry; mensuration; oblique triangles; land surveying; simple machines; composition and resolution of forces. Prerequisite Mathematics 108. Spring. One hour credit.

MATHEMATICS 200: *Calculus*. Functions; limits; continuity; the derivative; differentiation of algebraic functions; geometric applications; trigonometric and inverse trigonometric functions; exponential and logarithmic functions; the differential. Prerequisite, Mathematics 102. Fall, winter. One hour credit.

MATHEMATICS 201: *Calculus*, continued. Curvature; time-rates and motion; indeterminate forms; curve tracing; the indefinite integral; standard formulas of integration; trigonometric integrals; integration by substitution; integration by rational fractions; the definite integral. Prerequisite, Mathematics 100. Winter, spring. One hour credit.

MATHEMATICS 202: *Calculus*, concluded. The definite integral as the limit of a sum; centroids; moments of inertia;

series; partial differentiation; multiple integrals. Prerequisite, Mathematics 201. Fall, spring. One hour credit.

MATHEMATICS 205: *Business Mathematics*. Simple interest; compound interest; present value and compound discount; equation of payments; the different annuities. Prerequisite, Mathematics 1, 2, 3. Fall. One hour credit.

MATHEMATICS 206: *Mathematics of Investment*. Amortization and sinking funds; valuation of bonds; building and loan associations; probability and the mortality table; life annuities and life insurance. Prerequisite, Mathematics 205. Winter. One hour credit.

MATHEMATICS 207. *Business Statistics*. Definitions; Sampling; tabulation; graphic representation; averages; dispersion and skewness; correlation; index numbers; seasonal and cyclical fluctuations; binomial distribution; some characteristic curves; curve fitting; the normal probability curve and the probable error. Prerequisite Mathematics 206. Spring. One hour credit.

MATHEMATICS 300: *College Geometry*. Geometric constructions; properties of the triangle. Prerequisite, Mathematics 1, 2, 3. Fall. One hour credit.

MATHEMATICS 301: *College Geometry*, continued. Properties of the triangle; the Simpson line; transversals; harmonic section; harmonic properties of circles. Prerequisite, Mathematics 300. Winter. One hour credit.

MATHEMATICS 302: *College Geometry*, concluded. Harmonic properties of circles; inversion; recent geometry of the triangle. Prerequisite, Mathematics 301. Spring. One hour credit.

MATHEMATICS 303: *The History of Mathematics*. Mathematics of antiquity. Prerequisite, Mathematics 202. Fall. One hour credit.

MATHEMATICS 304: *The History of Mathematics*, continued. Mathematics of the middle ages. Prerequisite, Mathematics 303. Winter. One hour credit.

MATHEMATICS 305: *The History of Mathematics*, concluded. Mathematics of modern times. Prerequisite, Mathematics 304. Spring. One hour credit.

MATHEMATICS 306: *Differential Equations*. Definitions; formation of a differential equation; equations of the first order and of the first degree; equations of the first order but not of the first degree; singular solutions; applications to geometry, mechanics, and physics; linear equations with constant coefficients. Prerequisite, Mathematics 202. Fall. One hour credit.

MATHEMATICS 307: *Differential Equations*, concluded. Linear equations with variable coefficients; exact differential equations and equations of particular forms; integration in series; equations of the second order; geometrical, mechanical, and physical applications. Prerequisite, Mathematics 306. Winter. One hour credit.

MUSIC

LELAND L. BROWN, B. Music, Associate Professor.

DORIS BURD HASKELL, Instructor.

ELBERT HASKINS, B. A., Assistant Professor.

STELLA BOOLES KIDD, B. S., Instructor.

MUSIC 1, 2, 3: *Sight Singing*. Oral and written dictation. Required of students in certain Teacher-Training curricula. Fall, winter, spring. For each, two-thirds of an hour credit.

MUSIC 10, 11, 12: *Solfeggio*. Sight singing and dictation. For music students only. Fall, winter, spring. For each, one hour credit.

MUSIC 50, 51, 52; 150, 151, 152; 250, 251, 252; 350, 351, 352: *Piano, Voice, or Violin*. Admission by consultation with the instructors. For each, one hour credit.

MUSIC 100, 101, 102: *Solfeggio*, continued. For music students only. Fall, winter, spring. For each, one hour credit.

EDUCATION 107: *Practice Teaching of Public School Music*. Prerequisite Music 260-261. One hour credit.

MUSIC 110, 111, 112: *Harmony*. Elementary harmony, beginning with scales, intervals, triads, and harmonization of melodies and basses. Seventh chords, modulations, and foreign tones. Original exercises and harmony. Fall, winter, spring. For each, one hour credit.

MUSIC 120, 121, 122: *History of Music*. The course covers the whole period of musical history of the present day, giving particular attention to the composers and periods that have had the greatest influence on modern music. The aim is to enable the student to understand and to enjoy the work of all periods. Fall, winter, spring. For each, one hour credit.

MUSIC 211, 212, 213: *Counterpoint*. A study of elementary polyphonic music, also the writing of two, three, and four-voice counterpoint. Prerequisite, Music 110, 111, 112. Fall, winter, spring. For each, one hour credit.

MUSIC 230: *Musical Appreciation*. A cultural course in the appreciation of music. The object of this course is the attainment of appreciative listening and individual understanding of the works of the great masters. This course is open to all taking the academic and teacher-training courses. Fall. One hour credit. Fee, \$1.00.

MUSIC 260-261: *Method of Teaching Public School Music*. Credit, one hour a quarter.

MUSIC 310, 311: *Instrumentation*. A study of the individual characteristics of the various instruments comprising the modern orchestra and of the orchestra as a whole. The arrangement for the orchestra of original and standard compositions. Prerequisite, Music 110, 111, 112. Winter, spring. For each, one hour credit.

All juniors and seniors in the Music Course may elect four hours in piano, voice, or violin.

APPLIED MUSIC—PIANOFORTE

MUSIC 50, 51, 52: *Freshman Piano*. Major and minor scales; common-chord arpeggios with inversions. Phillip's School

of Technic begun. Czerny's Octave Studies. A limited number of studies from Czerny-Liebling and Heller, op. 45, 46, 47. Bach's two-part Inventions. Sonatas by Haydn, Mozart, Beethoven. Selections from classics and modern compositions. For each, one hour credit.

MUSIC 150, 151, 152: *Sophomore Piano*. Scales in sixths and tenths and dominant and diminished-seventh arpeggios. Philip's School of Technic continued. Studies selected from Czerny op. 740 and Cramer's 84 studies. Bach's three-part Inventions. Kullak's Octave Studies. Selections from classics and modern compositions. For each, one hour credit.

MUSIC 250, 251, 252: *Junior Piano*. Scales in double thirds and dominant and diminished-seventh arpeggios. Philip's School of Technic completed. Studies selected from Clementi. Gradus Ad Parnassum, Chopin's Etudes, Bach's Well-Tempered Clavichord. Concert pieces by classic and modern composers. For each, one hour credit.

MUSIC 350, 351, 352: *Senior Piano*. Chopin Etudes; Bach, Well-Tempered Clavichord. Compositions by Beethoven, Brahms, Schumann, etc. Concert pieces by classic and modern composers. Preparation for recital program at graduation. For each, one hour credit.

VIOLIN COURSE

Students taking the four-year course in violin are required to take one year of piano, to play in the orchestra, and to perform at least once each term during the junior and senior years. To pass from junior to senior year, a satisfactory performance of the Bach Concerto in A minor is required; to complete the senior year, a satisfactory performance of one of the following is required: Mozart Concerto in D; Mendelssohn Concerto; Bach Praeludium for violin alone.

FRESHMAN YEAR

Violin Schools by Tours and Deberiot. Studies by Sitt, op. 32, Bk. I; Wohlfarth, op. 74, op. 45; Dont, op. 37, op. 38. Solos:

selections using the first five positions. For each quarter, one hour credit.

SOPHOMORE YEAR

Schardieck Scale Studies. Studies by Mazas, op. 36, Bk. I; Sevcik, Violin Technics, op. I; Gruenberg, Progressive Studies by Famous Masters, Bk. 2; Sitt, op. 32, Bk. IV, V. Solos: Seitz Concerto No. 1; De Beriot, Air Varie, op. I; Sitt Polonaise in A; Selections by Borowski, Bohm, Leonard, Saint-Saens, Dancila, Drdla, Tschaikowsky, Cui, Massenet. For each, one hour credit.

JUNIOR YEAR

Scales and Arpeggios in three octaves. Forty-two Studies by Kreutzer. Mazas Studies, op. 36 Bk. II; Sitt Etudes, op. 80, Bk. I, II; Studies by Domerc, Rodin. Solos: Handel Sonatas; Viotti concerto, No. 23, Bach Concertos in A minor and D minor; De Beriot concerto, No. 6, No. 9; Corelli Sonata in D; Ries Suite, No. 3; Beethoven Romances in G and F; Wieniawski Legende. For each, one hour credit.

SENIOR YEAR

Fiorillo Studies. Rode Caprices. Studies by Dont, Rovelli, De Beriot. Solos: Mozart Concerto in D, Godard Concerto Romantique, Bach Selections from Six Sonatas for Violin alone, Corelli-Leonard La Folia Variations, Mozart-Kreisler Rondo, Mendelssohn Concerto. Selections by Bruch, Vieuxtemps, Wieniawski, Sarasate, Kreisler. For each quarter, one hour credit.

VOICE

MUSIC 50, 51, 52: *First Year Voice*. Elementary instruction in breathing, tone placing, vowel formation. Simple songs. Texts: Vaccai; Conconce, Fifty Lessons in Voice. For each quarter, one hour credit.

MUSIC 150, 151, 152: *Second Year Voice*. Exercises in vocalization for development of technique. Study of simple classics. Texts: Conconce, Fifty Lessons in Voice; Pauline Viardot, An Hour of Study, Anthology of Italian Song. Vol I. For each quarter, one hour credit.

MUSIC 250, 251, 252: *Third Year Voice*. Preparation of repertoire of songs and arias. Texts: Conconce, Fifty Lessons in Voice; Pauline Viardot, An Hour of Study, Anthology of Italian Song, Vol. II. For each quarter, one hour credit.

MUSIC 350, 351, 351: *Fourth Year Voice*. Development of tone and technique. Intensive study of opera, oratorio and the best of English, French, Italian, and German song literature. Texts: Marchese, The Art of Singing; Landi, Exercise du Trille. For each quarter, one hour credit.

SCIENCE

G. CARROLL HILLMAN, Ph. D., Professor and Head of Department.

EDWARD S. JENKINS, B. S., Assistant Professor, Chemistry.

PATRICK D. NEILSON, M. A., Professor, Physics.

MARION H. FOLK, M. S., Assistant Professor, Biology.

ROBERT FOSTER CLARK, M. A., Associate Professor, Biology.

BIOLOGY

BIOLOGY 1, 2, 3: *General Biology*. A study of the fundamental facts underlying the biological sciences obtained from a series of type forms of plants and animals. Courses 1 and 2 deal with the relationships between unicellular and multicellular organisms, emphasizing the relationships of multicellular organisms. Course 3 offers a general review of the plant kingdom, giving the student an acquaintance with general botanical laws and the common forms of plant life. Three hours of lecture and two two-hour laboratory periods each week. Fall, winter, spring. For each, one and two-thirds hours credit. Lab. fee \$2.50.

BIOLOGY 50: *Biology for Teacher-Training*. For two-year students only. No prerequisites. A course designed to meet the needs of those who will teach in the elementary schools. Three lectures and two laboratory periods each week. Frequent field trips. Fall, spring. One and two-thirds hours credit. Lab. fee, \$2.50.

BIOLOGY 101, 102, 103: *Zoology*. A general survey of the animal kingdom, its development and classification. The first quarter special attention is given to invertebrates. The second term special attention is given to the vertebrates. In the third term special attention is given to the economic importance of animals, and a collection is made of insects. Prerequisites, Biology 1, 2, 3. Fall, winter, spring. One and two-thirds hours' credit per quarter. Laboratory fee, \$3.00.

BIOLOGY 202: *Bacteriology*. A survey of pathogenic bacteria; theories of immunity; sanitary study of water, milk, and foods; with special emphasis on the relation of bacteria to home life; course designed specially for Home-Economics students. Three hours of lecture and one two-hour laboratory period. Prerequisite, Biology 1, 2. Winter. One and one-third hours credit. Lab fee, \$3.00.

CHEMISTRY

The courses offered in the Department of Chemistry are designed for those students who wish to acquire the necessary foundation for professional work in Chemistry, for pre-medical students, and for those desiring some knowledge of the subject as part of their general education.

All students who take Chemistry are required to register for Chemistry 1, 2, 3, basic course which is prerequisite for all courses in chemistry.

Students who expect to make Chemistry a profession should major in Chemistry and should secure the requisite foundation in Mathematics and Physics.

Students intending to study Medicine should take as much work in Chemistry as possible. Courses 1, 2, 3 and 100, 101, 102 are essential. Courses 105, 106 and 107 should be included, if possible. In fact, additional work in Physical Chemistry is required for admission to some of the medical schools and is almost equally essential with courses before mentioned.

CHEMISTRY 1, 2, 3: *General Chemistry*. A course in the fundamental principles of chemistry, prerequisite for all other

courses in chemistry. Three hours of lectures and two two-hour laboratory periods each week. Fall, winter, spring. For each, one and two-thirds hours credit. Lab. fee \$2.50.

CHEMISTRY 100, 101, 102: *General Organic Chemistry*. The fundamental theories and principles of that division of chemistry which has to do with the compounds of carbon. The principles of the science are illustrated by the preparation and study of typical representatives of the fatty and aromatic series. Three hours of lectures and two three-hour laboratory periods each week. Prerequisite, Chemistry 1, 2, 3. Fall, winter, spring. For each, two hours credit. Lab. fee, \$3.00.

CHEMISTRY 105, 106, 107: *Qualitative Analysis*. The fall and winter terms are devoted to the study of systematic qualitative analysis. The spring term is devoted to the study of elementary quantitative analysis. In the lectures and recitation work, special attention is given to the theoretical foundation of analytical chemistry. One hour of lecture and two three-hour laboratory periods each week. Prerequisite, Chemistry 1, 2, 3. Fall, winter, spring. For each, one and one-third hours credit. Lab. fee \$3.00.

CHEMISTRY 115, 116, 117: *Advanced Inorganic Chemistry*. The course deals more thoroughly with the theories and principles of chemistry than is possible in an introductory course. Special attention is paid to modern advances in chemical theory. The discussion is non-mathematical, and the course is intended as a foundation for the later course in Physical Chemistry. Three lectures each week. Prerequisite, Chemistry 1, 2, 3. Fall, winter, spring. For each, one hour credit.

CHEMISTRY 200, 201, 202: *Quantitative Analysis*. A course devoted to the study of the principles of quantitative analysis. The laboratory work will include a study of characteristic procedures, illustrating gravimetric and volumetric analysis. Numerous problems will be required. One hour of lecture and two three-hour laboratory periods each week. Prerequisite, Chemistry 1, 2, 3, and Chemistry 105, 106, 107. Fall, winter, spring. For each, one and one-third hours credit. Lab. fee, \$3.00.

HYGIENE AND SANITATION

HYGIENE AND SANITATION 200: *Personal Hygiene and Elementary Sanitation.* The principles of anatomy, normal body functions, and of personal hygiene; elementary treatment of the predisposing and actual causes of disease; a study of the ways and means by which disease may be avoided. Fall, spring. One hour credit.

HYGIENE AND SANITATION 201: *The Science of Health and Disease.* An advanced treatment of the problems of personal hygiene with special emphasis on the aspects of disease and group hygiene. A study of the causes and prevention of the more prevalent contagious diseases; followed by a study of the working principles of health conservation, special emphasis being placed upon water supply institutions and the various agencies employed in the disposal of industrial, domestic and other wastes; upon the sanitary handling of food stuffs, sanitary supervision of public markets, dairies, public baths, housing, and other agencies that affect the public health. Winter, spring. One hour credit.

PHYSICS

General Physics for Engineers and Non-Engineering Students.

PHYSICS 101: *Mechanics.* Length, mass and time; vectors, motion, force and torque, harmonic motion, work and energy, machines, power, elasticity, fluids at rest, fluids in motion, surface tension. Three hours of lecture and two two-hour laboratory periods each week. Prerequisite, Math. 1, 2. Fall, winter. One and two-thirds hours credit. Lab. fee, \$2.00.

PHYSICS 102: *Heat.* The nature of heat, calorimetry, vaporization and solidification, hygrometry, kinetic theory of gases, transmission of heat, thermodynamics. *Electricity and Magnetism.* Magnetism, electrostatics, electrostatic machines, electrostatic capacity, electromagnetism, electrokinetics, heating effect of electric current, chemical effect, voltaic cell, electromagnetic induction. Three hours of lecture and two two-hour laboratory periods each week. Prerequisite, Physics 101. Winter. One and two-thirds hours credit. Lab. fee, \$2.00.

PHYSICS 103: *Electricity* (continued). Electrical measuring instruments, telegraphy and telephony, electromagnetic waves, electric discharge, radioactivity. *Sound*. Wave motion, nature of sound, the musical scale, sonorous bodies. *Light*. Nature of light, refraction, optical instruments, dispersion, interference, photometry, color, polarization. Three hours of lecture and two two-hour laboratory periods each week. Prerequisite, Physics 102. Spring. One and two-thirds hours credit. Lab. fee, \$2.00.

PHYSICS 120: *Household Physics, for Students of Home Economics*. Three hours of lecture and two two-hour laboratory periods each week. Fall, spring. One and two-thirds hours credit. Lab. fee, \$2.00.

PHYSICS 201: *Electricity, Magnetism, and Modern Physics*. A more advanced course. Three hours of lecture and two two-hour laboratory periods each week. Prerequisites, Physics 101, 102, 103. Fall. One and two-thirds hours credit. Lab. fee, \$2.00.

PHYSICS 202: A continuation of 201. Winter. One and two-thirds hours credit. Lab. fee, \$2.00.

PHYSICS 203: A continuation of 202. Spring. One and two-thirds hours credit. Lab. fee, \$2.00.

SOCIAL SCIENCE

R. L. BIESELE, Ph. D., Professor and Head of Department.

AMOS W. FORD, M. A., Assistant Professor.

LAWRENCE J. FOX, M. A., Assistant Professor.

FRANK S. HALE, M. A., Assistant Professor.

GARNIE WM. MCGINTY, M. A., Assistant Professor.

Courses in history for freshmen and sophomores are so planned as to afford the student a broad historical background against which to project his social heritage. The advanced courses in history are specialized with a view to preparing the student more fully for specialization in the study of history.

The courses in political science, economics, and sociology are designed to acquaint the student with the fundamental principles of our civilization. Organized social control through political action is set forth in political science. The essential features of our urban civilization can be understood only through the study of economics and sociology. Furthermore, the student can enter into the preparation for the professions today only after having laid well a foundation in the study of psychological, economic, and sociological principles. The courses in economics and sociology are so planned as to give a student this fundamental preparation.

The following combinations of courses constitute the possible related subjects for a major or minor for students taking the academic course in Social Science:

Economics 100, 101, 102, 110, 129, 212, 214; and either Economic History 207, 208, 209, or Political Science 250, 251, 252, constitute a major in Economics.

Economics 100, 101, 102, 110, 129, 212, 214, constitute a minor in Economics.

Sociology 100, 101, 102, 208, 209, and Education 233, or Sociology 210, when preceded by Sociology 100, 101, 102, constitute a minor in Sociology.

Economic History 207, 208, 209 (or History 260), History of England 280, 281, 282, and History of Civilization 110, 111, 112, constitute a major in History.

Political Science 100, 101, 102, 250, 251, 252, constitute a minor in Political Science.

A major may also be taken in Social Science by combining six terms of Economics with any three terms in Sociology; or six terms in Sociology with any three terms in Economics, Political Science, or History 207, 208, 209, or History 110, 111, 112, or History 280, 281, 282.

A minor may be taken in History by selecting any two groups of threes from the above three groups of history.

ECONOMICS

ECONOMICS 100: *Principles of Economics*. This course opens up the field of general economic organization, and treats of industrial organization in respect to competition, production, distribution, and business administration. Not open to freshmen. Fall. One hour credit.

ECONOMICS 101: *Principles of Economics*. Continuation of Economics 100; attention is given to exchange, trade, principles of banking, distribution among the factors of production; elementary concepts of rent, wages, interest, and profits are emphasized. Prerequisite, Economics 100. Winter. One hour credit.

ECONOMICS 102: *Principles of Economics*. Continuation of Economics 101; a study is made of government in industry, economic effects of the tariff, social aspects of labor toward industry, and economic problems of agriculture. Prerequisite, Economic 101. Spring. One hour credit.

ECONOMICS 108: *Labor Problems*. Study of the development of a "working class", the philosophy of individualism as against collectivism in industry, growth and effects of machine production, combinations of labor and capital, and their relation to law and government is made. Prerequisite, Economics 102 (Not offered 1930-31). One hour credit.

ECONOMICS 110: *Public Finance*. This course enters into the investigation of public expenditures and revenues, and principles underlying sound government finances. Emphasis is placed on forms of taxation now in use, upon possible new sources of revenues and their administration. Prerequisite, Economics 100, 101, 102. Spring. One hour credit.

ECONOMICS 129: *Marketing*. The course is designed to acquaint the student with the principles of scientific marketing of products, whether agricultural or manufactured. The difference in the problem of marketing goods on a rising or falling market is stressed. The modern forms of market organization and devices are also considered. Prerequisites, Economics 100, 101, 102. Fall. One hour credit.

ECONOMICS 212: *Financial Organization*. The course is designed to acquaint the student with the various instruments of credit; the market devices that have been evolved for the disposition of these instruments, the laws under which such instruments are negotiated, and the relation of procedure in this field to social and economic development. Prerequisite, Economics 100, 101, 102. Winter. One hour credit.

ECONOMICS 214: *Investments*. The issues of national, state, and municipal governments, of railway, industrial and irrigation companies, from the investor's point of view; the organized markets and facilities and methods for the sale and purposes of these issues. Prerequisites, Economics 100, 101, 102. Spring. One hour credit.

HISTORY

HISTORY 1: *Modern European History, 1500-1789*. An introduction to the political and social history of modern Europe. The course begins with a survey of later medieval institutions and continues to the outbreak of the French Revolution. Fall, winter, spring. One hour credit.

HISTORY 2: *Modern European History, 1789-1870*. The history of Europe during the French Revolution, the Napoleonic period and the European re-adjustment. Special treatment will be given philosophical movement of the eighteenth century, French constitutional development, the statesmanship of Napoleon, the rise of nationalism and the unification of Italy and Germany. Prerequisite, History I. Fall, winter, spring. One hour credit.

HISTORY 3: *Modern European History, 1870-1930*. This course is to acquaint the student with those modern historical events which will be of aid in understanding present day political, social, and economic problems. Emphasis will be placed upon the rise of modern industry, the growth of nationalism, the extension of democracy, and those forces responsible for the World War. Prerequisite, History 1, 2. Winter, spring. One hour credit.

HISTORY 50: *U. S. History*. Open to two-year Teacher Training students. A general survey of the history of the United States from the discovery of America to 1850. An effort is made to present the subject from the viewpoint of students who are prospective teachers of history in the elementary grades. Fall. One hour credit.

HISTORY 51: *U. S. History*. Prerequisite, History 50. A continuation of History 50, beginning about 1850 and continuing to the present. Winter. One hour credit.

HISTORY 100: *History of the United States, 1492-1812*. A general introductory course which will emphasize the social and political life of the later colonial period, the rise of the independence movement, the separation from England, the formation of the Federal Constitution, and the causes of the War of 1812. Fall. One hour credit.

HISTORY 101: *History of the United States, 1812-1865*. This course, which is a continuation of History 100, will trace the political and social development of the American people through the Civil War. Special attention will be given the rise of the West, its influence on American democracy, and the causes of the Civil War. Winter. One hour credit.

HISTORY 102: *History of the United States, 1865-1930*. A study of the new nation which emerged from the conflict of sectional war. Emphasis will be placed on reconstruction, the new industry, the settlement of the West, the growth of Empire, and the position of the United States in the World War. Spring. One hour credit.

HISTORY 110: *History of Greece*. A survey of Greek civilization from the earlier times to the death of Alexander. Prerequisite, History 1, 2, 3. Fall. One hour credit.

HISTORY 111: *History of Rome*. A study of Roman civilization from its earliest period to the death of Justinian, 565 A. D. Prerequisite, History 1, 2, 3. Winter. One hour credit.

HISTORY 112: *Medieval History*. A survey of the political, economic, religious, and social development of Europe from

the death of Justinian to 1500. Prerequisite, History 1, 2, 3. Spring. One hour credit.

HISTORY 207: *Economic History of the United States*. Open to juniors and seniors. A study of the economic forces and institutions in American life from colonial times to 1860. Account is taken of the growth of population, territorial expansion, agriculture, labor, commerce, manufactures, tariff, finance, transportation, and communication. Fall. One hour credit.

HISTORY 208: *Economic History of the United States*. A continuation of History 207. It begins with the economic condition of 1860 and traces the development of these forces and factors to the present. Prerequisite, History 207. Winter. One hour credit.

HISTORY 209: *Economic Development of Modern Europe*. Open to juniors and seniors. A study of the economic forces and institutions of modern Europe. Attention is given to such topics as population, agriculture, labor, commerce, manufactures, tariff, finance, transportation, and communication. Spring. One hour credit.

HISTORY 260: *History of Louisiana*. Open to juniors and seniors. French and Spanish explorations, establishment and growth of the French colony, the Spanish period, the Louisiana purchase and the American period; a study of local conditions, federal relations and Louisiana literature. Fall, winter, spring. One hour credit.

HISTORY 280: *History of Great Britain*. An introductory course in British history from the Anglo-Saxon conquest to the death of Queen Elizabeth. The work will center around the development of the English government and the English nation. Open to juniors and seniors. Fall. One hour credit.

HISTORY 281: *History of Great Britain*. A continuation of History 280 which will trace the growth of English power through the Napoleonic wars. Subjects to be treated are: The Puritan Revolution, the rise of responsible government, the colonial struggle with France, the American Revolution, and the

conflict with Napoleon. Prerequisite, History 280. Winter. One hour credit.

HISTORY 282: *History of Great Britain*. The development of Great Britain and her empire in the nineteenth century. A study of the transition from agriculture to industry and from aristocracy to democracy. Attention will be given to the rise of responsible government in the dominions. Prerequisite, History 280, 281. Spring. One hour credit.

POLITICAL SCIENCE

POLITICAL SCIENCE 100: *National Government in the United States*. A study of the development of our federal system from its organization to the present day. Political parties and American political theories will be considered along with the machinery of government. Fall. One hour credit.

POLITICAL SCIENCE 101: *State and Local Government in the United States*. This course is a detailed study in the actual working of state government. Particular attention will be given the changing relations of the executive and legislative branches. Winter. One hour credit.

POLITICAL SCIENCE 102: *The Governments of Europe*. An introduction to the more important governments of Europe which is designed to give the students an appreciation not only of European political conditions but of those of his own country as well. The greater part of the course will be given to a consideration of the governments of England and France. Spring. One hour credit.

POLITICAL SCIENCE 250, 251, 252: *Business Law*. Contracts, their formation, operation and discharge; the principal and agent; nature of the relation; power of the agent to bind the principal in contracts and torts. Sale of goods; the transfer of title; warranties; remedies of buyer and seller on breach of contract or warranty; property; bankruptcy; insurance; patents and copyrights; master and servant. Fall, winter, spring. One hour credit.

SOCIOLOGY

SOCIOLOGY 100: *Introduction to Sociology*. The course is designed to aid students in observing social phenomena and in recording their observations; also, to guide them in reading and interpreting the literature of the subject. Not open to freshmen. Fall. One hour credit.

SOCIOLOGY 101: *Social Psychology*. A study is made of the relation of original nature, of the group, the crowd, and the public to human conduct. The bearing of tradition, convention, folkway, culture, and the like upon attention is also studied. Not open to freshmen. Prerequisite, Sociology 100. Winter. One hour credit.

SOCIOLOGY 102: *Social Pathology*. In this course a study is made of the defective, dependent, and delinquent classes of society; of the conditions and factors contributing to the production and existence of these classes, the best methods of treating and caring for them. Prerequisites, Sociology 100, 101. Spring. One hour credit.

SOCIOLOGY 208: *The Family*. A study will be made of the various forms of family life that have been erected upon the biological foundation. The subjection of women, the growth of women's rights under the influence of pioneer conditions. Modern phases of the problem of the adaptation of the family to the varied conditions of urban and rural environments. Prerequisites, Sociology 100, 101, 102. Fall. One hour credit.

SOCIOLOGY 209: *Race Problems*. The study of the ethnological, physiological, and psychological racial differences; of the concepts, isolation, assimilation, amalgamation, nationality, race pride and race prejudice. Prerequisites, Sociology 100, 101, 102. Winter. One hour credit.

SOCIOLOGY 210: *Rural-Urban Sociology*. This is a study of the genetic and historical development of rural and urban groups; of isolation, contact, and accommodation in these environments. Attention is given to the influence of economic factors upon the traditions and attitudes of the members of these

groups. Prerequisites, Sociology 100, 101, 102, or Economics 100, 101, 102. Not open to freshmen. Spring. One hour credit.

PHYSICAL EDUCATION FOR WOMEN

RUTH M. CRAWFORD, B. S., Associate Professor.

Each woman student upon entering the college will be given a physical examination, which will determine the amount and kind of physical education to be given. All freshmen and sophomores will be required to take three hours of physical education per week.

PHYSICAL EDUCATION 1, 2, 3: *First Year Physical Education*. Required of all freshmen. Fall, winter, spring. No credit.

PHYSICAL EDUCATION 10, 11, 12: *Corrective Gymnastics*. Required of all students not physically able to pursue regular courses in physical education. Fall, winter, spring. No credit.

PHYSICAL EDUCATION 20, 21, 22: *Games*. Basketball, volley ball, tennis, field and track events. No prerequisite. Cannot be substituted for Physical Education 1, 2, 3. Fall, winter, spring. No credit.

PHYSICAL EDUCATION 40, 41, 42: *Folk Dancing*. No prerequisite. Cannot be substituted for Physical Education 1, 2, 3. Fall, winter, spring. No credit.

PHYSICAL EDUCATION 50, 51, 52: *Tumbling*. Prerequisite, Physical Education 1, 2, 3. Fall, winter, spring. No credit.

PHYSICAL EDUCATION 100, 101, 102: *Second Year Physical Education*. Prerequisite, Physical Education 1, 2, 3. Required of all sophomores. Fall, winter, spring. No credit.

PHYSICAL EDUCATION 130: *Teaching of Physical Education*. This course is designed for students who intend to teach physical education in the public schools. Prerequisite, Phy-

sical Education 100, 101, 102. Fall, winter, spring. One hour credit.

PHYSICAL EDUCATION FOR MEN

G. M. BOHLER, Associate Professor.

L. J. FOX

R. S. WYNN

E. M. SHIRLEY

PHYSICAL EDUCATION 200: *Theory and Practice*. A course which familiarizes the student with the theory, psychology and development of football teams; including training, conditioning and an intimate study of fundamentals and strategy. Fall. One hour credit.

PHYSICAL EDUCATION 201: *Theory and Practice*. The coaching of basketball, in addition to a study and practice of boxing. Winter. One hour credit.

PHYSICAL EDUCATION 202: *Theory and Practice*. Baseball, track, and field events, in preparation for coaching. All phases of these sports are discussed and practiced in actual competition. Treatment and prevention of athletic injuries and first aid measures. Spring. One hour credit.

In addition to these courses covered in the major sports, ample instruction and participation is offered by arrangement in the minor sports, including tennis, swimming, golf, boxing, and wrestling. Some form of physical education is required of all freshmen and sophomores.

SCHOOL OF ENGINEERING

FRANK BOGARD, M. E., Dean

REGINALD A. MCFARLAND, M. S., Asst. Professor, Civil Engineering.

WILLIAM L. MITCHELL, M. E., Professor, Mechanical Engineering.

FREDERICK T. MORSE, M. E., Asst. Professor, Mechanical Engineering.

HARLEY J. NETHKEN, M. S., Professor, Electrical Engineering.

JEAN M. ROBERTS, M. S., Asst. Professor, Electrical Engineering.

The profession of engineering in continuing its manifold service to society recruits its ranks mainly from the graduates of technical schools. The School of Engineering offers a course of study for the specific purpose of preparing young men for entry into this profession. A faculty of six instructors and a student body of approximately one hundred and fifty men at present constitute the School of Engineering.

Two buildings are devoted to engineering. One contains class rooms, drafting rooms, and laboratories; the other, a shop building, houses forge, foundry, pattern, and machine shops. The machine shop is equipped with lathes, grinders, drill presses, a shaper, a planer, and a universal milling machine, together with the requisite tools for bench work. The courses in machine shop serve to acquaint the student with the nature, methods, and problems of machine shop practice, and to give him an operating knowledge of machine tools. The course in forging is designed to teach the nature and properties of iron and steel and the shaping of these metals by forge and anvil. Equipment of the forge shop consists principally of twelve forges with draft supplied by a motor driven fan.

A small cupola is used to produce the molten iron for castings in the combined pattern shop and foundry. A gas fired cru-

cible type furnace is used for the non-ferrous heat runs. Here the student begins with the construction of the wooden patterns and follows the process through to the production of the finished castings. The pattern shop is equipped with wood turning lathes, benches and bench tools, while in an annex building are located a planer, band saw, and circular saw.

Practice work in surveying is carried out on the extensive Tech campus and adjoining grounds with transit, level, and plane table. Field work in surveying is accompanied by class room exercises and lectures, illustrating the theory of surveying.

Laboratory work, given in the junior and senior years, serves to give form and substance to most of the technical theory presented in the lectures. A small experimental boiler, two turbo-generators, a horizontal slide valve engine, a horizontal Corliss engine, a locomotive injector, and reciprocating steam pumps are available for experiments on steam. A gas engine, alternating and direct current motors and generators, a rotary converter, transformers, meters, etc., complete the equipment for mechanical and electrical experimental engineering. Progress has been made in the last year towards the installation of suitable hydraulic experimental apparatus, and it is expected that more equipment will be added to the laboratory in the future. A Rheile tension and compression machine and an Olsen cement briquette machine are available for materials testing.

The engineering curriculum is arranged to allow specialization in civil or mechanical-electrical engineering during the last two years of the four year course leading to the baccalaureate degree. These courses have been planned with a view to laying a sound foundation for the general and technical knowledge needed by practitioners of civil, mechanical, or electrical engineering.

EXPENSES

In addition to the expenses listed elsewhere in this catalogue, the beginner in Engineering is required to purchase a drawing outfit of a quality approved by the faculty. The cost of this outfit is approximately \$12.00. All sophomores are required to purchase a slide rule. The cost of this instrument will vary from year to year but will be about \$5.00. Courses in the

Engineering curriculum for which special fees are charged together with the amount of these fees follow:

FRESHMAN YEAR

Chemistry Laboratory, 1, 2, 3—each.....	\$2.50
Engineering 60, 61—each.....	3.00
Engineering 62.....	2.00

SOPHOMORE YEAR

Physics Laboratory 112, 113—each.....	\$2.00
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JUNIOR YEAR

Engineering 250, 251, 252—each.....	\$2.00
Engineering 260, 261—each.....	3.00

SENIOR YEAR

Engineering 312, 321, 322—each.....	\$2.00
Engineering 350, 351, 352—each.....	3.00

EXPLANATION OF COURSE NUMBERS

Courses numbered from 1 to 99 are open to freshmen. Courses numbered from 100 to 199 assume at least sophomore standing for admittance; courses from 200 to 299 at least junior standing; courses from 300 to 399 at least senior standing. Occasionally the distinction between junior and senior courses is waived and the courses in the outlined curricula are to be taken in the year to which they are assigned, regardless of the numbering of the courses.

BASIC TWO-YEAR CURRICULUM IN
MECHANICAL-ELECTRICAL ENGINEERING
AND IN
CIVIL ENGINEERING

FALL QUARTER

	*P	*T	*C
English 1: Freshman Composition.....		3	1
Chemistry 1: General Chemistry.....	4	3	12-3
History 1: Modern European History.....		3	1
Mathematics 1: Algebra.....		3	1
Engineering 50: Mechanical Drawing.....	6		1
Engineering 60: Forging.....	6		1

WINTER QUARTER

English 2: Freshman Composition.....		3	1
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Chemistry 2: General Chemistry.....	4	3	12-3
History 2: Modern European History.....		3	1
Mathematics 3: Trigonometry.....		3	1
Engineering 51: Mechanical Drawing.....	6		1
Engineering 61: Elementary Machine Shop.....	6		1

SPRING QUARTER

English 3: Freshman Composition.....		3	1
Chemistry 3: General Chemistry.....	4	3	12-3
History 3: Modern European History.....		3	1
Engineering 1: Elementary Mechanics.....		3	1
Engineering 52: Mechanical Drawing.....	6		1
Engineering 62: General Surveying.....	6		1
College-session hours in freshman year.....	20		
TOTAL college-session hours.....	20		

SOPHOMORE YEAR

FALL QUARTER

English 100: Survey of English Literature.....		3	1
Engineering 100: Heat Engineering.....		3	1
Mathematics 100: Algebra.....		3	1
Mathematics 101: Analytical Geometry.....		3	1
Engineering 100: Heat Engineering.....		3	1
Engineering 150: Descriptive Geometry.....	4	3	12-3

WINTER QUARTER

English 101: Survey of English Literature.....		3	1
Mathematics 200: Calculus.....		3	1
Mathematics 102: Analytical Geometry.....		3	1
Physics 102: Sound, heat, magnetism, electricity.....		3	1
Physics 112: Laboratory.....	4		2-3
Engineering 101: Heat Engineering.....		3	1

SPRING QUARTER

English 102: Survey of American Literature.....		3	1
Mathematics 201: Calculus continued.....		3	1
Physics 103: Electricity, light, invisible radiations.....		3	1
Physics 113: Laboratory.....	4		2-3
Engineering 110: Elementary Electricity.....		3	1
Engineering 102: Heat Engineering.....		3	1
College-session hours in sophomore year.....	17		
TOTAL college-session hours.....	37		

*P—Practical courses in shop, laboratory, drawing and field work.

*T—Theoretical courses: lectures, recitations, and problems.

*C—College session-hours credit.

MECHANICAL-ELECTRICAL ENGINEERING

JUNIOR YEAR

FALL QUARTER

Economics 100: Principles of Economics.....	3	1
Mathematics 202: Calculus concluded.....	3	1
Engineering 200: Advanced Mechanics.....	3	1
Engineering 210: D. C. Machinery.....	3	1
Engineering 250: M. E. Laboratory.....	4	2-3
Engineering 260: Pattern Making and Foundry.....	6	1

WINTER QUARTER

Economics 101: Principles of Economics.....	3	1
Engineering 201: Advanced Mechanics.....	3	1
Engineering 211: Principles of Elec. Engineering.....	3	1
Engineering 221: Strength of Materials.....	3	1
Engineering 251: M. E. Laboratory.....	4	2-3
Engineering 261: Advanced Machine Shop.....	6	1

SPRING QUARTER

Economics 102: Principles of Economics.....	3	1
Engineering 202: Steam Turbines.....	3	1
Engineering 212: Elementary A. C. Machinery.....	3	1
Engineering 223: Hydraulics.....	3	1
Engineering 252: M. E. Laboratory.....	4	2-3
Engineering 262: Kinematics and Kinetics.....	6	1
College-session hours in junior year.....	17	
TOTAL college-session hours.....	54	

SENIOR YEAR

FALL QUARTER

Engineering 300: Financial Engineering.....	3	1
Engineering 310: Industrial Organization.....	3	1
Engineering 320: Graphic Statics.....	4	3 12-3
Engineering 350: M. E. Laboratory.....	6	1
Engineering 360: Seminar.....	1	1-3
Option:		
"A" Engineering 315: Ad. Thermodynamics.....	3	1
"B" Engineering 325: A. C. Machinery.....	3	1

WINTER QUARTER

Engineering 301: Contracts and Specifications.....	3	1
Engineering 311: Power Plant Engineering.....	3	1
Engineering 321: Machine Design.....	4	3 12-3
Engineering 351: M. E. Laboratory.....	6	1
Engineering 361: Seminar.....	1	1-3
Option:		

"A" Engineering 316: Refrigeration.....	3	1
"B" Engineering 326: A. C. Machinery.....	3	1

SPRING QUARTER

English 110: Fundamentals of Speech.....	3	1
Engineering 312: Power Plant Design.....	6	1
Engineering 322: Machine Design.....	4	3 12-3
Engineering 352: M. E. Laboratory.....	6	1
Engineering 362: Seminar.....	1	1-3
Option:		
"A" Engineering 317: Heating and Ventilating.....	3	1
"B" Engineering 327: Electric Transmission.....	3	1
College-session hours in senior year.....	18	
TOTAL college-session hours.....	72	

CIVIL ENGINEERING

JUNIOR YEAR

FALL QUARTER

Mathematics 202: Calculus concluded.....	3	1
Engineering 200: Advanced Mechanics.....	3	1
Engineering 210: D. C. Machinery.....	3	1
Engineering 250: M. E. Laboratory.....	4	2-3
Engineering 270: Plane Surveying.....	4	3 12-3
Engineering 280: C. E. Drawing.....	4	2-3

WINTER QUARTER

Engineering 201: Advanced Mechanics.....	3	1
Engineering 221: Strength of Materials.....	3	1
Engineering 222: Highway Engineering.....	3	1
Engineering 251: M. E. Laboratory.....	4	2-3
Engineering 271: Railroad Surveying.....	6	2 12-3
Engineering 281: C. E. Drawing.....	4	2-3

SPRING QUARTER

English 110: Public Speaking.....	3	1
Engineering 212: Elementary A. C. Machinery.....	3	1
Engineering 223: Hydraulics.....	3	1
Engineering 272: Railroad Surveying.....	6	2 12-3
Engineering 282: C. E. Drawing.....	4	2-3
College-session hours in junior year.....	17	1-3
TOTAL college-session hours.....	54	1-3

SENIOR YEAR

FALL QUARTER

Economics 100: Principles of Economics.....	3	1
Engineering 300: Financial Engineering.....	3	1

Engineering 310: Industrial Organization.....	3	1
Engineering 320: Graphic Statics.....4	3	12-3
Engineering 360: Seminar.....	1	1-3
Engineering 370: Higher Surveying.....4	2	11-3

WINTER QUARTER

Economics 101: Principles of Economics.....	3	1
Engineering 301: Contracts and Specifications.....	3	1
Engineering 336: Reinforced Concrete Const.....	3	1
Engineering 341: Structural Engineering.....	3	1
Engineering 361: Seminar.....	1	1-3
Engineering 371: Advanced C. E. Drawing.....4		2-3

SPRING QUARTER

Economics 102: Principles of Economics.....	3	1
Engineering 302: Water Supply.....	3	1
Engineering 337: Reinforced Concrete Const.....	3	1
Engineering 342: Structural Engineering.....	3	1
Engineering 343: Materials of Construction.....	3	1
Engineering 362: Seminar.....1		1-3
Engineering 372: C. E. Design Drawing.....6		1
College-session hours in senior year.....17	2-3	

TOTAL college-session hours.....72

DESCRIPTION OF COURSES

ENGINEERING 1: *Elementary Mechanics*. A treatise of mechanics without the use of calculus. Resolution of forces and velocity; elements of dynamics, kinetics, work and power. Prerequisite, Mathematics 3. Fall, spring. One hour credit.

ENGINEERING 50, 51, 52: *Mechanical Drawing*. Practice in the correct use of instruments. Free-hand lettering. Simple orthographic projections. Geometric figures; development of surfaces; intersection of solids. Isometric and perspective drawing. Reading, interpreting, and drawing machine details and assemblies. Fall, winter, spring. For each, one hour credit.

ENGINEERING 60: *Forging*. Study of the nature of wrought iron, machine steel, and tool steel; building and keeping clean fires in a forge; the process of drawing out, upsetting, bending, forging, and welding. Fall, winter, spring. One hour credit.

ENGINEERING 61: *Elementary Machine Shop*. Laying out work, chipping and filing plane surfaces, key-way cutting; scraping and finishing; simple lathe, planer, shaper, boring, and milling machine work. Fall, winter, spring. One hour credit.

ENGINEERING 62: *General Surveying*. The principles and fundamental operations of surveying with compass, level and transit. Field practice is given in actual surveys of land. Computation of area and drawing of plans; differential and profile leveling, running contours, etc. Prerequisite, Mathematics 3. Fall, spring. One hour credit.

ENGINEERING 100: *Heat Engineering*. A study of of fuels, combustion, furnaces, and stokers. Elementary heat and work with introduction to the content and use of steam tables. Steam boiler types and details. Lectures accompanied by weekly exercises and problems. (The student is required to purchase and use a slide rule for calculations). Open to all sophomores. Fall. One hour credit.

ENGINEERING 101: *Heat Engineering*. Elementary thermodynamics of the permanent gases and steam. Steam and

gas cycles in theory and practice. Steam engines, valve gear, governors, and steam plant auxiliaries. Prerequisite, Engineering 100. Winter. One hour credit.

ENGINEERING 102: *Heat Engineering*. A study of steam turbines, gas producers, and internal combustion engines. Elementary theory of blades and nozzles, carburetion and ignition. Gas, gasoline, and heavy oil engine types. Prerequisite, Engineering 101. Spring. One hour credit.

ENGINEERING 110: *Elementary Electricity*. Lessons in practical electricity; magnetism, magnetic induction, voltaic electricity, earth's magnetism, Ohm's law, electrical work and power. Fall, winter, spring. One hour credit.

ENGINEERING 150: *Descriptive Geometry*. Elementary principles and solids; developments and intersections of solids. Lectures and drawing. Prerequisite, Engineering 52. Fall. One and two-thirds hours credit.

ENGINEERING 200, 201: *Advanced Mechanics*. Applied and analytical mechanics. Statics, with application to the determination of stresses in framed structures; kinematics with application to bodies in motion and to machines; kinetics with application to motion of the mass center of a body. Prerequisite, Mathematics 200, 201. Fall, winter. For each, one hour credit.

ENGINEERING 202: *Steam Turbines*. A study of the theory of the steam turbine, and its construction, application, operation, with special attention to the designing of nozzles and blades. Prerequisite, Engineering 102. Spring. One hour credit.

ENGINEERING 210: *D. C. Machinery*. General principles of construction and operation of D. C. generators and motors. Armature reaction and commutation. Voltage regulation, speed regulation, efficiency. Systems of motor control. Prerequisite, Engineering 110. Fall. One hour credit.

ENGINEERING 211: *Principles of Electrical Engineering*. A continuation of Engineering 210, treating of storage batteries, booster systems, D. C. wiring and distribution systems, armature winding problems and characteristic curves. Prerequisite, Engineering 210. Winter. One hour credit.

ENGINEERING 212: *Elementary A. C. Machinery.* Study of alternating voltages and currents. Inductance, capacity, reactance, and impedance. General study of alternator construction, characteristics, and parallel operation. Induction motors, synchronous motors, and repulsion motors. Problems. Prerequisite, Mathematics 202. Spring. One hour credit.

ENGINEERING 221: *Strength of Materials.* The resistance and properties of engineering materials, including the mechanics of beams, columns, shafts, etc. Prerequisite, Mathematics 201. Winter. One hour credit.

ENGINEERING 222: *Highway Engineering.* Administration, economics, surveys, design, construction, maintenance, and operation of highways and highway systems. Open to juniors. Winter. One hour credit.

ENGINEERING 223: *Hydraulics.* The flow of water, energy of a mass of water, velocity head, flow through tubes, flow of gases, hydraulic machines and motors. Prerequisite, Mathematics 202. Spring. One hour credit.

ENGINEERING 250, 251, 252: *Mechanical and Electrical Laboratory.* Calibration of instruments, adjusting and operating steam and gas engines, valve setting and power measurements. Pump and weir test. Test of strength of materials, of concrete with varying percentages of mixtures. Gas engine testing of fuel characteristics, consumption, brake, and indicated horsepower. Galvanometer work, magnetic measurements and resistance, operation of direct current motors and generators, methods of adjusting and compounding, internal and external characteristics. Prerequisite, Engineering 102. Fall, winter, spring. For each, two-thirds hour credit.

ENGINEERING 260: *Pattern Making and Foundry.* Practice in the making of simple patterns and core boxes, illustrating the principles of draft, shrinkage, and partings. Special attention is given to coordinating pattern making and foundry practice. Instruction in green sand molding, core making, and cupola operation. Open to juniors. Fall, winter. One hour credit.

ENGINEERING 261: *Advanced Machine Shop*. Lathe, drill press, shaper, planer, tool-grinding, and milling machine work. Open to juniors. Prerequisite, Engineering 61. Fall, winter, spring. One hour credit.

ENGINEERING 262: *Kinematics and Kinetics*. A study of the motions and forces of typical mechanisms. Displacements; velocity and acceleration analysis by the method of instantaneous centers. Graphical and algebraical solution of the forces in machine parts, both applied and inertia. Prerequisite, Engineering 201. Spring. One hour credit.

ENGINEERING 270: *Plane Surveying*. Measurements of lines, angles, and differences of elevation; adjustments of surveying instruments; miscellaneous surveying problems; plane table surveys, stadia method; city, topographical, and mining. Prerequisite, Engineering 62. Fall. One and two-thirds hours credit.

ENGINEERING 271, 272: *Railroad Surveying and Earthwork*. Reconnaissance, preliminary, and location surveys; simple, reversed, and compound curves; turnouts, connections, and crossings; earthwork diagrams and computations. Prerequisite, Engineering 270. Winter, spring. For each, one and two-thirds hours credit.

ENGINEERING 280, 281, 282: *Civil Engineering Drawing*. Free hand lettering; titles; topographical conventions; maps, plans, and profiles from original field notes. Prerequisite, Engineering 270. Spring. For each, two-thirds hour credit.

ENGINEERING 300: *Financial Engineering*. The text covers the following heads: Fundamental financial calculations, basic cost and vestances, unit cost determination, determination of size of system for best efficiency, and determination of size and type of units. Prerequisite, Engineering 102. Fall. One hour credit.

ENGINEERING 301: *Contracts and Specifications*. Essential elements of a legal contract, competency of agents, corporations, etc. Engineering specifications, instructions to bidders, forms of proposals, etc. Open to seniors. Winter. One hour credit.

ENGINEERING 302: *Water Supply*. Source and supply, quantity estimates; storage and distribution; design of system; construction and maintenance; methods of purification. Prerequisite, Engineering 223. Spring. One hour credit.

ENGINEERING 310: *Industrial Organization*. Principles of industrial organization and management, including industrial finance, wage systems, factory organization and location, and the planning of factory buildings. Open to seniors. Fall. One hour credit.

ENGINEERING 311: *Power Plant Engineering*. The mechanical layout of modern power plants, together with a presentation of the economics of power plant design. Load curves, station factors, principles of economic selection, and similar considerations are treated. Prerequisite, Engineering 202, 212. Winter. One hour credit.

ENGINEERING 312: *Power Plant Design*. The work consists of the production of a design of a small power plant to satisfy assumed conditions. Preliminary studies, selection of equipment, layouts, and estimate of cost. Prerequisite, Engineering 311. Spring. One hour credit.

ENGINEERING 315: *Advanced Thermodynamics*. A study of the conditions surrounding the doing of work, with and without consideration of heat changes and the transformation of heat into work by the steam engine, internal combustion engine, refrigerating machinery, compressors, etc. Prerequisite, Engineering 102. Fall. One hour credit.

ENGINEERING 316: *Refrigeration*. The thermodynamics of refrigeration. The design, construction, and operation of refrigerating plants. Prerequisite, Engineering 315. Winter. One hour credit.

ENGINEERING 317. *Heating and Ventilating*. Direct and indirect systems of heating with live steam, exhaust steam, air, and water. Laying out plants. Ventilating and its relation to heating. Prerequisite, engineering 102. Spring. One hour credit.

ENGINEERING 320: *Graphic Statics*. Lectures and drawing work in the analysis of stresses in engineering structures. Computation of stresses in beams and common styles of roof and bridge trusses. The interrelation of graphical and algebraical methods. Prerequisite, Engineering 221. Fall. One and two-thirds hours credit.

ENGINEERING 321, 322: *Machine Design*. The calculation of stresses and size of parts. Drawing of details and assemblies from the calculated dimensions. Designs include hoists, drill presses, punches, conveyors, lifting magnets, motors and generators. Prerequisite, Engineering 262. Winter, spring. For each one and two-thirds hours credit.

ENGINEERING 325, 326: *A. C. Machinery*. Alternating current generators, calculation of alternator voltage, regulation, parallel operation, transformers, induction motors, synchronous motors, harmonic analysis and wave forms. Prerequisite, Engineering 212. Fall, winter. For each, one hour credit.

ENGINEERING 327: *Electric Transmission*. Transmission; electric principles and theory, protection against lightning, regulation and efficiencies by use of hyperbolic functions. Prerequisite, Engineering 326. Spring. One hour credit.

ENGINEERING 336, 337: *Reinforced Concrete Construction*. Concrete and steel in combination; design formulas and class room design of beams, slabs, girders, columns, bridges, retaining walls, culverts and footings. Prerequisite, Engineering 221. Winter, spring. For each, one hour credit.

ENGINEERING 341, 342: *Structural Engineering*. Design of roof and bridge trusses; theoretical treatment and design of beams, columns, plate girders, and connections. Design of highway and railway bridges. Prerequisite, Engineering 320. Winter, spring. For each, one hour credit.

ENGINEERING 343: *Materials of Construction*. The principles of construction underlying the laws of the strength of materials of construction; the manufacture and general properties; testing machines and methods of testing materials of construction;

concrete yield problems. Prerequisite, Engineering 221. Spring. One hour credit.

ENGINEERING 350, 351, 352: *Mechanical-Electrical Laboratory*. Boiler testing and efficiency, flue gas analysis, coal and gas analysis. Test of turbines, engines, pumps and injectors. Calibration of nozzles, weirs, and orifices. Over-all efficiency of small generating plants. Operation of alternating current machinery, calculation of alternator regulation by various methods. Efficiency of transformers; induction motors. Circle diagram of induction motor. Synchronous motor characteristics. Rotary converter, internal and external characteristics. Power and line calculations. Open to seniors only. Fall, winter, spring. For each, one hour credit.

ENGINEERING 360, 361, 362: *Seminar*. One hour a week devoted to discussion, reading of assigned papers, informal talks by instructors and professional engineers, debates on matters the student abreast of current engineering practice. Fall, winter, spring. For each, one-third of an hour credit.

ENGINEERING 370: *Higher Surveying*. Triangulation; measurements and corrections for base lines; astronomical surveying; precise leveling; higher surveying problems and computations. Prerequisite, Engineering 272. Fall. One and one-third hours credit.

ENGINEERING 371: *Advanced Civil Engineering Drawing*. Preliminary railroad and highway maps from original notes; paper locations; complete plans and profile maps; tracing and blue-printing. Prerequisite, Engineering 273. Two-thirds of an hour credit.

ENGINEERING 372: *Civil Engineering Design Drawing*. Detail drawings from class room designs of framed structures and bridges. Prerequisite, Engineering 342. Spring. One hour credit.

